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PRINCIPAL CONTENTS.

American Railroad Journal.

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Saturday, September 6, 1851.

Hempfield Railroad.

A meeting of the citizens of Ohio county, Virginia, was held in Wheeling on the evening of the 6th ult. John W. Gill presided, and John Dunham was appointed secretary. The meeting was addressed by T. M. T. McKennon, Esq., President of the Hempfield railroad company, and other gentlemen; after which resolutions were unanimously adopted to the effect that the commercial interests of Missouri, Illinois, Indiana, Ohio, Virginia and Pennsylvania demand the speedy completion of that central line of railroad which is now in course of construction from Jefferson city to St. Louis, from St. Louis to Columbus, from Columbus to Wheeling, and from Wheeling to Philadelphia, and that the Hempfield railroad is the link in this great chain which forms the shortest practicable connection between the Central road of Pennsylvania and the Central line west of the Ohio, since it strikes the Ohio at the shortest point where the trade can be commanded, and where that river can be crossed by any railroad extending from Philadelphia, and below the main difficulties of navigation in the Ohio; and that consequently it must command a vast trade, and must of necessity be a profitable road.

A committee was appointed to receive subscriptions in Wheeling and South Wheeling; and a determination was expressed to ask no aid from abroad until they had shown their own faith and confidence in the work by taking stock sufficient to evince their determination to carry the enterprise through.

Ohio.

Cincinnati and Belpre Railroad.—At a recent meeting of the stockholders of this company, it was voted to change the name of the company to "Marietta and Cincinnati Railroad Company."—A report upon the affairs of the company was made by W. P. Cutler, Esq., the President, of which the following is an abstract:

The charter authorises the construction of a road from a point on the Ohio opposite Parkersburg, or from Harmar, at the mouth of the Muskingum, by way of Athens and Chillicothe, to the city of Cincinnati, and to connect with any railway constructed to the Ohio river on the easterly side thereof, in Virginia.

The principal portion of the disposable funds of the company, are solely applicable to the construction of that portion of the line, connecting the Mineral region in Vinton county with Cincinnati. That connection being deemed very important, a great effort has been directed to select the best route west of Chillicothe, and secure a prompt construction of the road. The route to Greenfield was determined on, and 11 miles of it from Chillicothe put under contract. Surveys were also made to Hillsborough, with a view to a connection at that place with the Hillsborough and Cincinnati company. That route has been abandoned, and a much shorter and cheaper route adopted, from Greenfield west to Cincinnati.

The line east passes two or three miles south of McArthur, in Vinton county, and will thoroughly develope the mineral wealth known to abound in that region. From Athens to Marietta, a direct and practicable route has been found entering the ravine of the Ohio, near Marietta. The county of Washington and the towns of Marietta and Harmar took $350,000 of the stock, payable on condition the route to Marietta was adopted, and the placing of fifty miles of the road west of that town under contract. These conditional subscriptions have been accepted, in order to concentrate on the work the united energies of a portion of Ohio, hitherto neglected, and whose future prosperity seems to depend mainly upon a successful issue of the present effort. The company rely mostly, for a direct and speedy connection with the Atlantic cities, upon the city of Wheeling, to which point the Baltimore and Ohio railroad is now approaching a rapid completion, and from which the construction of the Hempfield road promises a connection with Philadelphia and New York, shorter by many miles, and more direct than the one through Baltimore, and avoiding the high mountain grades. Should the interest of Baltimore induce the construction of the line through Virginia to Parkersburg, a connection with that line can be made, if the parties in interest furnish the funds.

The original capital stock of the company was $1,000,000. Authority has been since given to increase the capital to $3,000,000. Under the general law it may be further increased to $6,000,000. During the past year the following subscriptions have been made to the capital stock:

Subscription from Ross county, authorized by an act of the General Assembly of Jan. 21, 1851	$200,000
Athens county, authorized by act of March 7, 1850	100,000
Washington county, authorized by act of General Assembly of March 20, 1851	200,000
Marietta, same act	100,000
Harmar, same act	50,000
Individual subscriptions, made payable on location of road to Harmar	10,000
Subscriptions west of Greenfield	150,000
Amount taken by contractors on work let	80,000
Total subscriptions during the year.	$890,000
Amount subscribed previous to 21st Aug. 1850:—Ross county $100,000—individual stock $154,000	254,000
Total subscriptions of stock	$1,144,000

The city of Cincinnati authorized a loan of its credit to the company to the amount of $150,000, on condition that a junction should be formed with the Hillsborough road. As this condition has be-

come impracticable, no doubt is entertained by the President, that the city authorities will so modify it as to permit the application of the funds thus obtained, to the construction of the first division of the road, adjacent to Cincinnati. Applications have been made to the counties of Athens and Vinton, to take $100,000 of stock each; and to the city of Chillicothe to take $50,000. If these subscriptions are made, the available means of the Company, including the Cincinnati Loan, will be $1,544,000.

In March last, the line from a point eleven miles east of Chillicothe to Greenfield was put under contract, and the grading and masonry is progressing rapidly. A steam engine about to be applied to the heavy excavation; and the road bed will be ready for the iron in time to complete that part of the road by the 1st of December, 1852. Twenty-five per cent of the contract price is taken in stock.

The amount already expended since the organization of the company is $27,844 93. The balance in the Treasury of $2,528 42 will be absorbed in payment of dues to the Engineer corps. All of the above has been received from individual stockholders. A portion of the Ross county bonds have been issued, but have not yet been disposed of. It is hoped to realize the par amount ot them.

Twenty-five miles west of Greenfield and seventeen additional miles east of Chillicothe, are advertised for contract. The design of the directors is, so to construct the road as to open at once a connection between the mineral region and Cincinnati. The road is to be a first class road in every respect. The right of way has been mostly secured.

The entire cost of the first division of 80 miles to Martinsville, and six miles light work west to connect with the Hillsborough road, will be about $1,500,000. The funds applicable, including $50,000 from Chilicothe, and the $150,000 from Cincinnati, are $880,000. The deficiency of $500,000 will be made up by individual subscriptions.

The lack of sympathy and co-operation from any of the great Eastern and Western cities, likely to reap the benefits of the road, has greatly discouraged its vigorous prosecution; but recent movements in Philadelphia and Baltimore, indicate a more just appreciation of it. The recent opening of the New York and Cincinnati and Columbus and Cleveland roads has shown the merchants of those cities the necessity of intercepting the great Southwestern current of business at points where it may be secured from the controlling influence of Northern lines connected with New York.

The leading merchants of Philadelphia held a meeting in July, and adopted resolutions favorable to a connection by the Hempfield and Wheeling route with Marietta. The city council of Baltimore has resolved to furnish $1,500,000 of the capital required to construct a railroad connecting the city of Baltimore with the commercial centre of the Great West.

The connections of the Cincinnati and Marietta road with other railways and public improvements are numerous and important. It crosses the Ohio canal at Chillicothe, and connects with the Hocking canal at Athens, and the Muskingum improvement at Marietta. These works are in operation, come from productive portions of the state, and will become important feeders to the road. While the original policy of uniting Cincinnati and St. Louis with the Atlantic shore, by the nearest and best route, has been adhered to, other connections has been projected which promise important results. A charter for a railway from Dayton to intersect the Marietta line at or near the crossings of Rattle-snake creek, in Highland county, has been obtained. This line can be easily construct ed, and will connect an important section of the country with the mineral region in Ohio, and with Baltimore, and at Dayton, with all the Indiana roads. Its early completion may be looked for. The interest of a large portion of Ohio, and of Kentucky and Tennessee, demand the vigorous prosecution and early completion of the road to Marietta. The Cincinnati and Marietta railway must control a very large amount of trade and travel, and influence the entire current of business flowing from a South-westerly direction to the Eastern cities.

The distance from Cincinnati to Marietta by railway will be 188 miles; by the river it is 300, thus making a difference of full 20 hours in running time over the best steamboat speed.

Passengers leaving Louisville, and passing by way of Lexington, Maysville, may reach Wheeling in 16 hours on their way to Baltimore or Philadelphia. The same advantages may be derived by Nashville and New Orleans, by an extension of the trunk line. By this route the distance from New Orleans to Wheeling will be about 1,000 miles, and be run in 48 hours, while the distance by the rivers is 2,000, and 12 days are required to run it.

The report makes a very favorable estimate of the profits of the road. The Madison and Indianapolis road, connecting two cities of the size of Chillicothe, 86 miles doing a local business, pays 10 per cent. dividend, and its stock canno: be bought for less than par. The Little Miami road, when confined simply to local business, paid well. So did the Mad River road, and the Sandusky and Mansfield road. The Cincinnati and Marietta road when finished must command an amount of business, fully up to the capacity of any road to perform. All the elements of railway business and profits are abundant along the line of this road. Kentucky and Middle and West Tennessee have no direct railway route to either Baltimore, Philadelphia or New York. "Such a route, however, is opened to them, by the completion of their own lines, to Maysville and Portsmouth, thence by the Scioto and Hocking Valley route, to its intersection with this road. The topography of the country bordering the Ohio river, on either side, between Portsmouth and Marietta, utterly forbids the idea of a rival line"

The distance from Nashville to New York by way of Lexington, Cincinnati, Cleveland, and New York and Erie road is	1139 miles
Nashville to New York, via Maysville, Wheeling and Philadelphia	984 "
Difference	155 "

The report concludes with the remark that a richer field for railroad enterprise is not offered in the United States.

Iowa.

Western Railroad.—It is stated that the directors of the "Iowa Western railroad," from Muscatine, through Washington, Keokuk and Mahaska counties, are about making arrangements for the immediate survey of the route. Owing to high waters on the east end of the route, it has been determined to commence at Oskaloosa and run eastward.—Muscatine has raised $1,000 towards paying the expense of the survey.

From the Merchant's Magazine.

Internal Improvements of the State of New York.

A SKETCH OF THE RISE, PROGRESS, AND PRESENT CONDITION OF INTERNAL IMPROVEMENTS IN THE STATE OF NEW YORK.

Continued from Page 528.

RAILROADS.

The first application which appears to have been made to the Legislature of New York, for the construction of a railroad, was by Stephen Van Rensselaer of Albany, and George W. Featherstonhaugh of Duanesburgh, in the county of Schenectady, in the year 1826. They applied on the 13th of February of that year, for an act of incorporation to authorize them to construct a railway between the Mohawk and Hudson Rivers. The petition was referred to a select committee of the Assembly, of which Theodore Sill of Oneida was chairman, who reported in favor of the application, on the 28th of the same month. The committee allude to the success of railroads in England, and conclude that, under similar circumstances they may be made successful in this State. "Nevertheless, as there is not a single instance of a railroad of any extent in this country, known to the committee, it remains an experiment yet to be tried; and it is under these circumstances that the petitioners are willing to make the first experiment of the kind with their own private resources. The present occasion affords a fair opportunity for trying an experiment, without expense to the State, how far the contemplated plan of improvement is applicable to our soil and climate." The bill passed 99 to 8 in the Assembly, and 26 to 3 in the Senate.

The stock of the Mohawk and Hudson road was not readily taken up, and some modification in the charter was applied for and obtained in 1828. The messages of Governor Clinton, in 1827 and 1828, and of Governor Van Buren in 1829, do not recommend railroads to the consideration of the Legislature.

Governor Throop, in his message in 1831, aludes to experiments made in England "during the past year with locomotive engines, upon a railroad between Liverpool and Manchester," and states that "loaded carriages now pass regularly between those cities at the rate of eighteen miles an hour." And the message adds, "while canals, peculiarly adapted to the transportation of bulky articles, may be made in suitable situations, railroads, on account of their fitness for rapid transmission, to operate at seasons when canals are useless, and perhaps to overcome elevations insurmountable by them, will no doubt, in future times, be extensively distributed throughout the State. There are few obstacles in any part of the State which may not be overcome by one or other of these improvements." Four charters were granted for railroads in 1831, two of which, the New York and Harlem, and Saratoga and Schenectady, have been constructed.

Some surveys were made, but the contracts for the construction of the Mohawk and Hudson road were not entered into until July, 1830; in August of that year ground was broken at Schenectady, and in about one year the road was finished and put in operation, under the supsrvision of C. C. Cambreleng, as agent of the company, and John B. Jervis, as chief engineer. The opening of the road was celebrated on the 24th of September, 1831.—Three cars, with twenty passengers in each, were taken from the intersection of the railroad with the Cherry Valley Turnpike, near the head of the plane in Albany, to the head of the plane in Schenectady, by an American engine, weighing three and a half tons, in forty-six minutes; and seven other cars were drawn by horses in one hour and a quarter. The company had an English engine made by Robert Stevens, weighing six and a half tons, which went through a few days after at the rate of twenty-two miles per hour.

In a short speech at the dinner in Schenectady, Mr. Cambreleng complimented Mr. Featherstonhaugh, as the enterprising gentleman through whose efforts the charter was obtained; and he alluded to the Mohawk and Hudson road as "a humble pioneer to more extensive and useful works, spreading through every part of the State." And in reference to the project then agitated by the people of Buffalo and Rochester, for a railroad from

the Hudson to Lake Erie, along the route of the Erie canal, he gave the following toast—"The Buffalo Railroad—may we soon breakfast at Utica—dine in Rochester—and sup with our friends on Lake Erie."

At Albany the company purchased a tract of 18 acres of land, about half a mile south of the city, constructed docks and a storehouse, under the expectation of doing a large transportation business, by taking property from the canal at Schenectady, where another store-house was constructed and connected with the canal by a basin which admitted boats to pass from the canal into the basin and alongside of the railroad track in the store-house. The elevations at each end of the road, one hundred and eighty-five feet at Albany, and one hundred and fifty feet at Schenectady, were overcome by inclined planes and stationary engines. Although the distance from the canal at Schenectady to the Hudson river at Albany by the railroad, was only sixteen miles, and the distance by the Erie canal thirty miles, with the interruption of twenty-seven locks, still the effort to take the produce from the canal and transport it to Albany by the railroad, was an entire failure, and the storehouses and the canal basin have been abandoned, although this company have not been obliged to pay toll to the State for articles transported. The passengers at the time referred to, were taken to and from a point near the head of Albany plane, by horse power, on a branch road to the head of State-street, immediately below the Capitol Park; this branch was constructed under an act passed in 1822, which required it to be extended to the Albany Basin and a track was actually laid down through the centre of State-street to the basin; but the grade was such that it could not be used without a stationary engine, and the track was subsequently removed. By subsequent acts the company was authorized to abandon their inclined planes and branch roads, and construct the road on a new line so as to overcome the rise at Albany and Schenectady by locomotive engines.—All these changes have been expensive, and have brought up the cost of the road to about one hundred thousand dollars per mile.

As soon as the Mohawk and Hudson railroad was in operation, it gave a new impulse to this branch of internal improvement. The passengers averaged between three and four hundred per day, and it was estimated that the road would yield an income of 15 per cent, and in less than ninety days the stock was at a premium of thirty-six per cent.

Early in the month of September, 1831, a committee of the citizens of Buffalo addressed a circular to the inhabitants of the State, urging the adoption of immediate measures for the construction of a railroad from the Hudson River to Lake Erie, and suggesting the propriety of following the route of the Erie canal, insisting that the interests of the State, in that work, would be promoted instead of being injured, by this mode of increasing the facilities for the transportation of passengers; and that the Erie canal instead of having any good reason to dread the railroad as a rival, required its assistance in performing its Herculean labors. This committee, with a similar one in Rochester, united in calling a Railroad Convention, to meet at Syracuse on the 12th of October, 1831. The convention was attended by delegates from most of the counties on the central line between Albany and Buffalo. Nathaniel W. Howell, of Ontario was President, and Thomas H. Hubbard, of Oneida, and William B. Rochester, of Erie, Secretaries. The convention resolved to apply to the Legislature for act of incorporation, "to construct a railroad from Schenectady to Buffalo, to pass through the towns of Utica and Salina." The convention also adopted the following resolution:—

"Resolved, That it is expedient in making such application. to ask for the incorporation of a company empowered to make a railroad to be used for the purpose of transporting persons and their baggage, and under such restrictions, as regards the transportation of property, *that the same tolls shall be paid into the canal fund, for the carriage of property or other than baggage, on the railroad, as would be paid to the State for the transportation of the same property on the canal.*"*

A committee appointed by this convention gave notice of an application for a charter to construct a railroad from Schenectady to Buffalo, on the conditions of the above resolution, with a capital of five millions of dollars, and power to increase to ten.

Another notice was published, dated 21st Sept., 1831, for a railroad from the Hudson River, or Schenectady, to Buffalo, "by the most convenient route, *with branches connecting therewith such of the villages of Syracuse, Auburn, Geneva, Canandaigua, Rochester and Batavia as shall not be on the route of the main road.*" On the 26th of the same month, notices were given of a railroad from Albany to Buffalo, with a capital of seven millions, for the transportation of passengers, goods, wares, and merchandise. Also, for a railroad from Buffalo to Cayuga Lake, or outlet, with a capital of two millions, to transport goods, wares, merchandise and passengers.

On the 29th of November, of the same year, a meeting was held at Genesee, in relation to a railroad from Rochester to Dansville, following up the valley of the Genesee to Mount Morris, and thence up the valley of the Canaseragо to Dansville. In the preamble to the resolutions, it is stated that neither a canal nor a railroad can be constructed to Olean without the aid of the State, and as such aid was doubtful, the meeting determined to apply for a railroad charter; and it was declared in the proceedings that "a railroad has a decided advantage over a canal in this climate, by extending its benefits and facilities throughout the whole year, whilst a canal would be so obstructed with ice as to be useless nearly half the time."

In his annual message in 1832, Governor Throop said—"Railroads are of modern invention, more simple and less expensive than the Roman, French or Dutch roads, and probably better adapted to a cheap, safe and rapid transmission of persons and commodities. There is reason to believe that for great thoroughfares, they will not only supersede every other kind of road, but enter into a successful competition with canals also. They are not so well adapted to general use, as either roads or canals, because they will admit upon their track none but public vehicles of a peculiar construction." After alluding to the numerous applications for railroad charters, and to the long period which must elapse before these enterprises could be accomplished by the public means alone, the message recommends the granting of charters for these works, inserting in them the power to repeal, and "reserving to the State the right to take possession of them as public property on equitable terms."—And on routes contiguous to the State canals, or "pointing to the sources of their trade," requiring such rates of toll to be paid to the treasury as would secure the canal revenue from loss, and not retard the payment of the canal debt.

Applications were made to the Legislature of 1832 for forty nine separate charters for railroads, twenty-seven of which were granted. Of the latter, six have been constructed; the Brooklyn and Jamaica, Hudson and Berkshire, New York and Erie, Renssellaer and Saratoga, Tonawanda, Watertown and Rome.

The Senate made an order for a standing committee on railroads, and this committee, consisting of Messrs. Tallmadge, Maynard and Halsey, reported a bill for the "Hudson and Erie railroad," on the application of the committee of the Syracuse Convention, embracing the terms and conditions set forth in their resolutions. Mr. Maynard, of Oneida, made an able speech in favor of the bill, but the enacting clause was rejected in the Senate, by a vote of 13 to 8. At the same session, an act to incorporate a company with a capital of ten millions, for the New York and Erie railroad, passed the Assembly by a vote of 100 to 2, and the Senate by 23 to 3.

In the Assembly, Mr. Stilwell made a general report on the subject of railroads, and recommended that the State should aid their construction, by becoming "a stockholder in all leading routes."—This report alludes to the fact that the message of Governor Clinton, in 1827, the year after the railroad from Albany to Schenectady was chartered, did not allude to the subject of this new mode of conveyance by railroads; although he recommended "the construction of a grand State road from the Hudson to Lake Erie," and seventeen canals, one of which was to form a second water communication from the Hudson river to Lake Erie, by extending the Delaware and Hudson canal from the confluence of the Lackawaxen and Delaware rivers sixty six miles, to Deposit, thence to Bettsburgh on the Susquehanna, thence along its valley, and that of the Tioga and the branches of the latter, to Hornellsville; two hundred and thirty miles, and from that point to be extended "to Portland, on Lake Erie, and to Pittsburgh, at the head of the Ohio."

The report of Mr. Stilwell also alludes to an article in a Baltimore paper of the preceding December, in which it is stated that whilst "all the communications by river and canal throughout the country are suspended on account of the ice, our great railroad* continues in active and steady operation, without the least interruption or hindrance from frost, snow, or any other obstacle." The committee express full confidence that every description of articles will be carried on railways, and that the "owners of Canals in England, contemplate draining them, and laying railways on their site."

At this time, when the practicability and the success of railroads were thus established, the state of New York had completed and then had in successful operation, canals connecting the Hudson river with all the great western and northern lakes, and with the interior lakes, Cayuga, Seneca, and Crooked lake, and had nearly completed the Chemung canal, from Seneca lake, to the Susquehannah river.

The remaining routes, on which canals have since been constructed or commenced, are much better adapted to the use of railroads than canals. On two of them, extensive reservoirs are required to furnish a supply of water; and besides this, they interfere with some of the most important water privileges and milling interests in the state. On the routes of the Chenango, the Genesee Valley, and the Black River canals, railroads, by operating the whole year, and aided by the transportation of passengers, as well as property, might furnish a fair remuneration for the outlay. And if this is so, the loss to the state, for expenditures already made, is fifteen millions of dollars.

There was a time, after the completion of the Erie and Champlain canals, when some of the New England states were agitated with canal projects, and one expensive canal was actually constructed in Connecticut, which proved a total failure, and ruined its projectors. It was fortunate for the New England states, generally, that they waited until the railway and the locomotive gave them a system of internal improvement adapted to the physical condition of their country. Through the same section of country where the capital expended on a canal was a dead loss, liberal dividends are realized on the cost of a railroad.

After the favorable exposition of Gov. Throop, as to the feasibility and utility of railroads, and the liberal views of the committee of the assembly in regard to them, it may be asked why the legislature should pass laws to construct canals instead of railways, on the routes requiring reservoirs for the supply of water, and an aggregate of two or three hundred locks?

* The Constitution of 1821 declared that the rates of toll established by the Canal Commissioners and published in March, 1821, should not be "reduced or diverted at any time before the full and complete payment of the principal and interest of the moneys borrowed and to be borrowed," for the completion of the navigable communication between the lakes and the Atlantic Ocean. The rates of toll referred to, did not contain any charge for the transportation of passengers. In 1825, passengers in freight boats were charged at the rate of one cent and five mills per ton per mile, estimating full grown persons at 150 pounds each, and children under five years at 75 pounds. In 1826, passengers over twelve years were charged two mills each per mile on freight-boats; but as these rates on passengers were established after the adoption of the Constitution, there was no constitutional difficulty in authorizing by law the construction of railroads, which it was obvious would divert the transportation of passengers from the canal.

* The "Baltimore and Ohio," completed 60 miles between Baltimore and Frederick.

On the part of the applicants, it was desired that the state should assume the whole expense of constructing and maintaining the work. If a charter was granted for a railroad, it was not certain that the state would loan its credit to the company as had been done in the case of the Delaware and Hudson canal, in 1827, or become a stockholder, as proposed by the railroad committee, in 1832; and if either mode was adopted, a large portion of the cost must be supplied by individual subscriptions; and the applicants insisted that they had a just claim for a canal, to be constructed solely at the expense of the state, as had been done for the inhabitants in other sections.

In 1833 six railroads were chartered; three of these have been constructed—the Utica and Schenectady, Whitehall and Rutland, and Buffalo and Black Rock.

The message of Governor Marcy, which gives an opinion in favor of internal improvements generally, and of the Chenango canal particularly, does not allude to railroads. In the Assembly, Mr. J. C. Baker, of Oneida, made a report on the subject of railroads, recommending the granting of charters for them, guarding them "in such a manner, that the revenue arising from the present or future canals, should in no possible event be affected;" reserving in all cases the power to alter, amend, modify, or repeal any charter. The committee, in this report, express an opinion "that there is no branch of internal improvement that has yet been devised, that will tend so much to facilitate early and prompt intelligence, and afford as great facilities for that purpose as railroads."* And that there is "no rational ground to doubt their final success;" "and if they will not supersede, that they will at least operate as a substitute for canals, in those parts of the country where canals are impracticable."

In 1834, ten railroads were authorized, five of which have since been constructed—Auburn and Syracuse, Buffalo and Niagara Falls, Long Island, Lockport and Niagara Falls, and Saratoga and Washington.

The message of Governor Marcy takes a comprehensive view of the extent and success of the state canals, urges the necessity of doubling the locks and deepening and widening the Erie Canal, in order to facilitate transportation, and compete successfully for the Western trade; yet railroads are not commended as among the facilities needed, or as substitutes for canals, on dubious routes for the latter kind of improvement. An act passed at this session, authorizing the governor to appoint an engineer to explore and survey a route for a railroad, commencing at the city of New York, or at the most eligible point in its vicinity, through the southern tier of counties, by way of Oswego, to Lake Erie, at some eligible point between Cattaraugus Creek and the Pennsylvania line. The sum of $15,000 was appropriated to defray the expenses of the survey.† An act was also passed, Chap. 187, declaring it a misdemeanor to place obstructions on any railroad, punishable by imprisonment in the county jail for one year, and a fine of $250.

In 1835, although some thirty-five applications were made for independent railroads, including several on the line from Utica to Buffalo, none of them were chartered. The only successful application was the authority given to a turnpike company to construct a railroad from a point near the north bounds of the village of Kingston to tide water. There was an application for a railroad from Utica to Syracuse, which was opposed by several remonstrances from Onondaga county. Two routes were applied for from Syracuse to Rochester, one on the line of the canal, and another from Auburn to Rochester; the latter was defeated by a vote of 66 to 40, in the Assembly. Application was made for a subscription by the state to the Erie railroad; when this failed in the Assembly, Mr. Wetmore introduced a resolution to have the work done by the state; this was laid on the table, and subsequently, Mr. Ogden, of Delaware, introduced an amendment to a bill for a loan of the credit of the state to the company, in sums of $500,000 each, as the work progressed.

In Governor Marcy's message, he alludes to the survey of the route of the Erie railroad, by Benjamin Wright, and has a favorable notice of the work itself, stating that by this road, "intercourse with the flourishing regions of the West would be opened earlier in the spring, and continued later in the autumn, than it now is or can be by the Erie Canal."

The report of Benjamin Wright, (Assembly Doc. No. 107, 1835,) makes the distance from a point on the Hudson river, twenty-four miles above New York, to Lake Erie, four hundred and eighty-three miles; and the cost, "to grade and bridge over rivers, for two tracks, and put down one track," he estimates at $4,762,260. "These estimates are, in my opinion, liberal, and such as will make an excellent road," including the construction of a long wharf into the Hudson river. The engineer assumed one hundred feet as the highest grade, and 500 feet as the shortest curve. At a point, five miles from Lake Erie, and seven hundred and forty feet above it, it was contemplated to descend five hundred and six feet by an inclined plane, in a distance of a mile and a half.

A resolution was passed in the Assembly, on motion of Mr. J. I. Roosevelt, of New York, calling on the canal commissioners to furnish information to the house as to the relative expense of constructing and maintaining canals and railroads, and of transportation on them. This resolution was answered by detailed statements, prepared by John B. Jervis, Holmes Hutchinson, and Frederick C. Mills, which are given in Doc. 296, of 1835. Taking the facts obtained at that time, the report concludes that canals, in their construction and maintenance, are less expensive than railroads, and that the relative cost of conveyance is as 4.375 to 1, a little over four and one-third to one, in favor of canals; this is exclusive of tolls or profits. The report adds, in favor of railroads, that "they admit of advantageous use in districts where canals, for the want of water,* would be impracticable," and would be preferred where high velocities are required, as for the transportation of passengers, and under some circumstances for the conveyance of light goods.

* An opinion, which no one would be disposed to call in question in 1833, has proved entirely erroneous by the operations of the electric telegraph, ten years thereafter.

† Mr. Todd of Putnam, in behalf of the Railroad committee, made a report in the assembly adverse to the application for state aid to the railroad. And Mr. Beardsley, of Herkimer, made a report against an appropriation for a survey.—Doc. 336, 337—1834.

Baltimore and Ohio Railroad Extension.

A gentleman just from Cumberland informs us that when last heard from the track had been pushed on to the 44th section—a point 44 miles west of Cumberland, and within less than one mile of the Crabtree summit cut. The heavy grade of 117 feet to the mile, first encountered on the 30th section, is thus surmounted, and we state with pleasure that the performance of the locomotive power, in its every-day working upon this grade, in its entire extent, has to a gratifying degree realized anticipations founded upon the results of the experimental running on the first two miles of the grade, conducted (on July 22d) under the eye of Benj. H. Latrobe, Esq., Engineer in Chief.

Eight miles beyond the summit, the track will have reached Oaklands, the Glade station. This will be accomplished in the course of the coming month, and in full time to secure the fall live stock transportation centering there from the surrounding Glade country. And it may not be amiss to state in this connection, that the passenger and freight receipts on the road, as now extended, are much exceeding what was expected. A passenger train leaves Cumberland daily for Piedmont, connecting there with the iron train further west, and at the Paddytown depot with a tri-weekly line of stages for Parkersburg, via the North-western Turnpike.

The community thus see that this magnificent enterprise is steadily and rapidly advancing towards the western termini—verifying at the various stages of its progress, the assurance of its able Chief Engineer officer in regard to the time of completion. —*Baltimore Patriot.*

* At this very time the state was constructing six reservoirs to supply the Summit Level of the Chenango canal with water. It was not absolutely "impracticable," in this way, to get water for the canal. But a railroad, by concentrating passengers and the transportation of property, would have been more profitable and useful.

Fourth Annual Report of the Pennsylvania Railroad.

We give below, in full, the Report of the Directors of this work, and an abstract of that of the Chief Engineer. The importance of the work is a sufficient reason for the large space we devote to the report.

The Board of Directors submit to the Stockholders, in compliance with the provisions of the charter, a statement of the affairs of the Pennsylvania railroad company, from October 31st, 1849, to December 31st, 1850, the date now fixed by law for the termination of its fiscal year.

The report of the treasurer shows the receipts of the company, on account of capital stock to the latter date, to have been	$5,822,210 00
And the disbursements	5,095,546 12
Leaving a balance of	726,663 88
Which, with the amount of subscription yet to be collected	1,013,640 00
Constitutes the available means of the company for the prosecution of the work	$1,740,303 88

The board invite the attention of the stockholders to the fact, that the amount of interest chargeable to construction account, being the balance of the interest account from the date of the organisation of the company to the 31st of December last, after deducting interest received and the net earnings of the road, is but $211,123 29.

The reports of the Chief Engineer, J. Edgar Thomson, Esq., and of the late Superintendent of Transportation, Herman Haupt, Esq., now General Superintendent, exhibit in detail the operations of the departments with the management of which these gentlemen are respectively charged, and various other matters of more or less interest to the stockholders.

The eastern division of the road has been completed to the Tyrone Forges in a manner entirely satisfactory to the board, and will not, in their estimation, suffer by contrast with any other railroad in the country. Between that point and Altoona, where the work upon the light sections was delayed some four months for want of means, its condition is by no means satisfactory, and measures will be taken in the course of the ensuing season to have this portion of the work and the Hollidaysburg branch brought up to the high standard, which a proper regard for public opinion and the interest of the stockholders has prescribed.

Upon the western division the work thus far been well done, and has been executed as rapidly, except upon a few sections, as was deemed consistent with durability. The unhappy feuds among the laborers, resulting, in some cases, in loss of life, have been a source of delay and inconvenience, but it is believed that a recurrence of these discreditable scenes will be prevented by the admirable police arrangements made, under the sanction of the board, by Edward Miller, Esq., the associate engineer in charge of that division. If, however, this expectation should not be realised, a firm local judiciary and a reliable military force are ready to assert the supremacy of the law promptly and effectively.

The board have contracted upon favorable terms for a sufficient quantity of iron for the superstructure of the western division. While an honest State pride is gratified in adverting to the fact that the road is thus far constructed exclusively of Pennsylvania material, the board have no hesitation in expressing their full conviction that the difference in price will be more than counterbalanced by the superiority of our rails over the best of those recently imported for other roads. The contractors, as an evidence of their own confidence, bind themselves to replace, without charge, all rails which shall give way within five years, of an original defect.

The eastern division of the road was opened for use to the Portage intersection, one mile west of

Hollidaysburg, on the 17th of September last, too late to secure to the company the full benefit of the fall trade and travel, and the Portage railroad was closed for repairs, by order of the canal commissioners, on the 7th of December. During the months of October, November and December, the net receipts for passengers and freight were $42,-084 84; equal to an annual interest of $3 82-100 per cent upon the cost of this division, including the Hollidaysburg branch, with the interest thereon chargeable to construction, and of all the cars, locomotives, machinery and fixtures in use. This result induces the board to believe that the road will, during the current year, earn six per cent upon the cost of whatever portion of it may be brought into operation, and that it will henceforward yield an equal or larger per centage upon the whole outlay, productive and unproductive, after making proper provision for depreciation, by the creation of an ample contingent and renewal fund.

The local trade and travel increase so steadily as to leave little room for doubt that they will, in a few years, be adequate to the support of the road and the payment of the interest upon its cost.—Even now the receipts at stations which had no name when the road was located, exceed those at some of the largest towns upon the Juniata. A branch road is in course of construction to Blairsville, with means provided for that purpose by the citizens of that borough, and its extension by local effort to the town of Indiana, or the substitution of a plank road, will depend upon the results of surveys now in progress. The plank roads from Bedford to Hollidaysburg and from Somerset to Johnstown, with numberless kindred improvements under construction or in contemplation, will aid in swelling the receipts of the mother work, to which they owe their existence, and in developing the dormant wealth of Pennsylvania.

All other things being equal, the geographical position of Philadelphia will secure to her a virtual monopoly of the trade of the west against all rivalship. That trade is, however, too tempting a prize to be permitted to remain in any hands but those which are as prompt to defend as they are able to hold it. We must look the fact in the face that it is lost, in part at least, to Philadelphia, if further delay be suffered in the mountain division of the Pennsylvania railroad. The Baltimore and Ohio railroad is now under contract throughout its entire length. From Cumberland westward 5,000 men are at work upon it; 22,000 tons of rails have been imported for it, and the energy and sagacity which mark its management, permit no doubt that it will be prosecuted with the utmost vigor till it reaches the Ohio river. The Erie railroad, hitherto driven forward with very little regard to cost, must be completed to Lake Erie in May next, in compliance with the condition upon which $3,000,-000 of State and $750,000 of private stock were relinquished to the present stockholders.

To compete with these unbroken lines from the seaboard to the western waters, managed, as they will be, by the ablest merchants of her sister cities, Philadelphia will have the eastern and western divisions of the Pennsylvania railroad connected by a link of 36 miles, embracing ten inclined planes, the crossing of which has heretofore generally consumed sufficient time to make the trip between Philadelphia and Pittsburg upon a first class railroad, and the use of which will entirely cut off from this company one of its largest prospective sources of revenue, the transportation of live stock from points west of the Alleghenies, to the eastern grazing counties of Pennsylvania, and to the Philadelphia and New York markets.

It is suggested by the chief engineer, that the sum of $1,500,000 will suffice to build a road from Altoona to the head of plane No. 2, by which the worst portions of the Allegheny Portage road would be avoided, and the time consumed in crossing the mountains materially reduced. As a last alternative, this proposition might be adopted; but while the proposed connection would be, in many points of view, a decided improvement over the one now in use, it would fall very far short of accomplishing the primary purpose for which this undertaking was projected, of securing to the commonwealth and its two great cities the benefits accruing from the possession of the trade and travel of the west, by furnishing a route which should in all respects compare favorably with the best of its rivals. That object can never be attained while any link, however small, shall remain under the ever-varying management incident to the incessant changes of State and local politics.

With a view to procure that result at the earliest possible day, and to promote, at the same time, what they conceive to be the true interests of the present stockholders, the board earnestly recommend that immediate provision be made for putting the mountain division under contract at as early a period of the ensuing spring as the character of the ground will permit. To build this portion of the road, and partially equip the whole, will require the filling up of the capital stock of the company to the limit fixed by the recent action of the stockholders, under the authority conferred in the charter. The amount subscribed to this date is $6,835,850, which will be increased more than $100,000 by the issue of stock, deliverable upon the completion of a portion of the contracts upon the western division, leaving a sum to be supplied slightly exceeding $3,000,000.

In asking at this time for this large additional subscription, the board are aware that they are drawing freely upon resources already heavily taxed; but they do not, on that account, hesitate to make the appeal. They make it in the confident belief that the sum they ask will, through the instrumentality of this road, be returned ten-fold to Philadelphia and her citizens before the present generation shall have passed away, and that their demand will elicit a response worthy alike of the source from which it is to emanate, and of the object to which it is to be applied.

If we could forget what is due to ourselves, we are not at liberty to overlook our obligations to others who have united their fortunes with ours in a common destiny, and faithfully fulfilled their part of the implied contract. The extraordinary energy with which the Ohio and Pennsylvania railroad has been driven westward, has concentrated upon that improvement many smaller ones, originally projected with a view to very different connections, and created others destined to add largely to its revenues, and to those of the Pennsylvania railroad. From the present year forward that road and its countless tributaries will pour upon the western terminus of ours an immense amount of tonnage, to find its way slowly, and at a comparatively heavy cost, over a broken line, till the completion of our entire road shall open an outlet for this and other roads whose most available eastern connection is still an open question, whose capacity shall be equal to any demands which can be made upon it.

The board have made the best arrangements in their power for the transportation of merchandise and produce between Philadelphia and Pittsburg, during the continuance of canal navigation for the current year, at prices varying from fifty cents to one dollar per hundred pounds. They have fixed these rates, not so much with a view to present profit as to the promotion of what they believe to be the true interests of this company, and of the mercantile community, with which it is so intimately identified. They have, after the most careful investigation and mature consideration, decided upon starting from the outset with a uniform tariff of low charges, in preference to the sliding scale, which has heretofore mitigated so seriously against the increase of the inland trade of Philadelphia and of the revenues of the commonwealth.

The board are gratified to have it in their power to state that they are sustained in the adoption of this system by the concurrence of the intelligent gentlemen who now compose the canal board, and that they are assured of their cordial co-operation in fixing it as the settled policy which shall hereafter govern the operations upon the State works as well as those of this company.

They bring their action upon this subject to the notice of their constituents, in full confidence that it will meet their hearty approbation.

By order of the board.

W. C. Patterson, President.

From the Report of J. Edgar Thomson, Esq., Chief Engineer of this company, we learn that since the previous report, the road has been extended from Lewistown to the Portage railroad, a distance of seventy-eight miles, making a continuous line of railroad from Philadelphia to Johnstown, 279 miles in length. The amount already paid on the eastern division, up to the 1st of January last, as taken from the books of the treasurer, is given below, together with the estimate of the ultimate cost of the road.

	Paid.	Present estimate.
Graduation	$2,068,179 35	$2,175,000
Superstructure	1,400,357 86	1,485,000
Engineering, etc	134,799 03	145,000
Cost of road	3,603,336 24	3,805,000
Land damages and real estate	167,062 03	215,000
Total	3,770,398 27	4,020,000

The mountain division, including the space from Altoona to the Stone Viaduct over the Conemaugh, on the Portage railroad, nearly eight miles east of Johnstown, is 31¼ miles in length. There is much heavy work here, and the proposed tunnel will prove a tedious job. The present estimate of the cost of this division is—

Graduation, etc., from Altoona to Laurel Swamp Summit, 15¼ miles		$1,065,000
Graduation, etc., from Laurel Swamp Summit to Stone Viaduct, 16¼ miles		430,000
		1,495,000
Engineering	$45,000	
Land damages, etc	35,000	
Superstructure	350,000	
		430,000
		$1,925,000

The importance of placing this division under contract at an early period is strongly urged, in view of the completion of the New York and Erie road, and the contemplated extension of the Baltimore and Ohio railroad to the Ohio river in 1852, which are both regarded as formidable rivals.—Still the advantage is represented to be in favor of the Pennsylvania road, on the score of distance as compared with the route to Cleveland by the New York and Erie and Lake Shore railroads, and on account of its moderate grades, as compared with the Baltimore and Ohio road.

The report says:

"There being no conveyance at present through Pennsylvania, that can compete in time and comfort with the railroad and steamboat lines from Cincinnati, by the lakes, to New York and Boston, the whole tide of travel between the east and west, which far exceeds in amount the calculations of those who have not witnessed it, now flows in that direction. But when our road is finished, and the Pennsylvania and Ohio railroad is extended to the Cleveland and Columbus railroad, which will be ere we reach Pittsburg, the advantages in our favor above mentioned (it the mountain division is completed) must turn the tide of travel back upon us, with increasing numbers, from the reduced fare and decreased time (24 hours from Philadelphia to Cincinnati) which these will enable us to offer, giving abundant sources of revenue from passengers alone, to satisfy the most exacting capitalist."

The whole of the western division, from the Stone Viaduct to Pittsburg, a distance of 85¼ miles, is now under contract. The estimate of the cost of this division is as follows:

Graduation, etc		$1,990,000
Superstructure		875,000
Cost of construction		2,865,000
Engineering	$115,000	
Real estate and land damages	95,000	
		210,000
Total cost of western division		$3,075,000

The cost of the whole road, according to the above estimates, would be—

Eastern division,	130 miles		$4,020,000
Mountain "	31¼	"	1,925,000
Western "	85¼	"	3,075,000
Main line	246¼	"	$9,020,000

In addition to this, the Hollidaysburg branch, 6¼ miles in length, is estimated at $110,000, and the Blairsville branch, 2¼ miles in length, $50,000—making $160,000; which when added to the above, makes the total amount $9,180,000.

The profits of the road, as far as it has been in operation, have been diminished by the tax upon its tonnage, imposed by the commonwealth. It is hoped that this restriction upon its operations may be removed, when it is believed it will do a profitable freight business; but even should the restriction continue, it cannot fail (says the report) to yield ample profits to its stockholders from travel and such freights as will pay for the increased speed.

New York.

Ogdensburgh Railroad.—The Committee of the Ogdensburgh Railroad have issued a circular inviting the stockholders of the company to lend the company $750,000, the reasons for which are stated as follows:—

The extreme pressure of the money market renders it necessary to fund the floating debt of the company. To this end bonds have been prepared, running ten years from April 1, 1851, bearing seven per cent interest, payable semi-annually, and convertible at any time prior to January, 1860, into stock of the company at par. Seven hundred and fifty thousand dollars of these bonds of one thousand dollars each, are now offered to the stockholders at fifteen per cent. discount. Each stockholder will be entitled to half the amount in bonds which he holds in stock. Some may not find it convenient to take their proportion, and those who risk for a larger amount than they are entitled to, will have their proposition considered in making the distribution, provided the balance is not taken up by parties offering more than 82 per cent.

Of the capital stock there is now paid in	$1,500,000
The amount of mortgage bonds is	1,500,000
The issue of convertible bonds now proposed to stockholders, say	750,000
Making the capital stock paid in and funded after the disposition of the bonds	$3,750,000

The large equipment required for working the road, the bridge over Lake Champlain, the loss on bonds, and interest on funded and floating debt chargeable to construction, will swell the total cost of the road when finished, to about $4,000,000; but any balance above the $3,750,000 can be easily managed until met by a sale of the forfeited stock belonging to the company at par.

Cincinnati and St Louis Railroad.

We are happy to announce to the people of Cincinnati, and the friends of the Ohio and Mississippi railroad, that the construction of this great national thoroughfare is about to be commenced under very favorable auspices. We understand a further section of the road, extending to the valley of the east fork of White river, will be put under contract as soon as it can be properly located. This will intersect the Jeffersonville road. Several of the counties in Indiana engage to prepare the road for the superstructure through their respective limits, and take their pay in the stock of the company.—Citizens of Cincinnati, who desire the speedy completion of this road, come forward promptly and subscribe to the stock of this company. Delay no longer, lest the trade and travel of the West be diverted from you.

We call attention to the advertisement in our columns of to-day, for letting forty-five miles of the road. We are informed that a portion of the Illinois division of the line will be immediately put under contract, the surveys just having been completed.—*Cin. Com.*

Monetary.

Condition of the Banks of the United States from 1834 *to* 1851.—The figures indicate the condition of the banks at a period at or near January 1st of each year. The amount of "bills of other banks on hand," (with the addition or subtraction of the balances due to or from other banks,) is deducted from the circulation:—

Yr.	Num. of banks & branch's.	Capital.	Circulation.	Deposits and other Liabilities.	Profits.	Total Liabilities.	Notes & bills of exchange.	Specie.	Stocks, real estate, spe. funds, &c.	Total Resources.	Ratio of circulation to specie.
1834	506	$200,005,944	$71,957,299	$15,666,986	$21,817,855	$359,448,084	$324,119,499	$26,641,753	$18,686,832	$369,448,084	$2 70
1835	704	231,250,327	81,494,734	103,401,840	20,979,233	437,126,144	365,163,831	43,937,625	28,024,685	437,126,144	1 85
1836	713	251,875,292	106,711,314	141,103,674	38,514,390	538,204,670	457,506,080	40,019,594	40,678,996	538,204,996	2 65
1837	788	290,772,091	115,409,571	163,957,474	40,153,199	610,292,735	525,115,702	37,915,340	47,261,693	610,292,735	3 04
1838	829	317,636,778	93,994,618	144,686,863	42,579,998	598,898,257	485,631,687	35,184,112	78,082,458	598,898,257	2 67
1839	840	327,132,512	108,125,180	153,186,394	23,667,713	612,111,799	492,278,015	45,193,673	74,701,111	612,111,799	2 40
1840	907	363,629,227	91,212,577	120,058,808	34,335,530	609,236,142	474,133,199	35,207,690	99,895,262	609,236,142	2 59
1841	784	313,608,959	76,631,611	107,786,327	36,595,579	534,622,516	386,487,662	34,813,958	113,320,896	534,622,516	2 20
1842	692	260,171,797	59,412,698	75,183,796	26,858,873	421,627,164	323,957,569	28,440,423	69,229,172	424,627,164	2 09
1843	691	228,861,948	46,047,250	63,525,656	20,754,720	359,189,574	254,544,937	33,515,806	71,128,931	359,189,574	1 27
1844	696	210,872,056	59,032,267	90,392,775	18,170,091	379,067,189	264,905,814	49,898,269	64,268,106	379,067,189	1 20
1845	707	206,045,969	74,186,119	93,874,548	18,143,469	392,250,205	288,617,131	44,241,942	59,391,832	392,250,205	1 68
1846	707	196,894,309	89,166,624	102,244,263	22,706,827	411,012,402	312,114,404	42,012,095	56,885,903	411,012,402	2 12
1847	715	203,072,632	88,481,233	96,498,610	24,739,904	412,792,369	310,292,915	35,135,316	67,374,108	412,792,369	2 53
1848	751	204,838,175	112,588,221	108,727,578	30,640,886	456,794,860	344,476,582	46,309,765	65,948,513	456,794,860	2 43
1849	782	207,309,361	104,167,440	97,884,980	23,990,112	433,351,893	332,323,195	43,619,368	57,709,330	433,351,893	2 39
1850	824	217,317,211	119,977,641	118,492,904	18,607,385	474,325,141	364,204,078	45,379,345	64,741,718	474,325,141	2 64
1851	871	227,469,074	133,785,974	133,937,109	32,930,378	528,122,535	412,607,653	48,671,138	66,843,784	528,122,535	2 73

New Hampshire.

Contoocook Valley Railroad.—The debt of this company is about $120,000, of which about $60,000 became due in July last. The remainder becomes due in 1855, and is bonded. The legislature, at the last session, authorized the company to issue bonds to the amount of $60,000, bearing 8 per cent. interest, and payable in ten years. Some of the stockholders have taken bonds, and others refused. Suits were accordingly commenced last week by the creditors of the road, against some of those stockholders who have refused to take the bonds, on the ground that they are *individually liable* for all the debts of the corporation.—*Nashua Gazette.*

New York.

Buffalo and New York Railroad.—The Buffalo and New York city railroad, as we learn from the Buffalo Commercial Advertiser, is to be put under contract immediately, between Buffalo and Attica. This, says the Commercial, settles the question in relation to this section of the road, and secures its early completion through the entire length. Between Attica and Hornellsville the road is now rapidly approaching a readiness for the superstructure along the whole line. We learn that it is the intention of the company to have the road in operation between Hornellsville and Portage by the 1st of November, and between Portage and Attica by the 1st of January next.

Erie and New York city Railroad.—A meeting of the Erie and New York city railroad company was held at Jamestown on the 12th inst., at which the following officers were elected:—Benjamin Chamberlain, President; Thaddeus S. Sheldon, Secretary; Robert Newland, Treasurer. Messrs. Samuel Barrett, Augustus F. Allen, and William Hall, were appointed a Committee to draft and report By-Laws for the regulation of the company.

This road is intended to connect the city of Erie with the New York and Erie railroad at the mouth of the Little Valley Creek, in Cattaraugus County, running through the southern portions of Cattaraugus and Chatauque, and shortening the distance from the Dunkirk route between this city and Erie several miles.

Ohio.

Marietta and Cincinnati Railroad.—At a meeting of the stockholders of the Marietta and Cincinnati railroad company, held at Chillicothe on the 20th ult., the following gentlemen were elected directors, to serve for the ensuing year:—

Hon. W. P. Cutler, John Mills, Esq., Douglas Putman, Esq., Noah L. Wilson, Esq., John Ballard, Esq., A. B. Walker, Esq., Hon. John Madeira, Hon. Allen Latham, Francis Campbell, Esq., Simon Ratcliff, Esq., A. Hegler, Esq., Hon. Hugh Smart, Hon. Ruel Beeson.

East Tennessee and Georgia Railroad.

This road is now open to Calhoun, on the Hiwassee river, a distance of forty miles from Dalton, the Southern terminus. The Atlanta Intelligencer states that it is expected forty miles more of the road will be completed in December next. This will bring it to the Tennessee river, about 25 or 30 miles from Knoxville.

Virginia and Tennessee Railroad.

A meeting was held in Abingdon, Virginia, on the 28th ult., for the purpose of adopting measures to forward the Virginia and Tennessee railroad, at which it was resolved to call a convention of all the friends of the enterprise, to be held at Abingdon on the 8th day of October. All the counties along the line of the Tennessee and Virginia railroad, in Tennessee, and along the line of the Georgia and Ohio railroad in Georgia, were invited to send delegates.

Kentucky.

Maysville and Lexington Railroad.—We notice that the President of this company has offered for sale the Fayette, Bourbon, Maysville and Mason county bonds. Capitalists can nowhere find better securities than these, and they should command the highest price in the market.

The Hammer Superseded in Blooming Iron.

At the last meeting of the Birmingham Institution of Mechanical Engineers, a paper was read "On a New Machine for Blooming Iron." The working portion of the machine consists of three eccentric, cuspidated, semi-lunar-shaped cams, working simultaneously, and all kept rotating in one direction by wheels and pinions, firmly connected together in a strong frame, and set in motion by a steam engine. The convex sides of these semi-cylindrical cams are deeply grooved and serrated, and their peculiar form is such, that on dropping a bloom of iron into the concavity of the upper cam, as it presents itself, it is immediately drawn into the vortex, or centre of motion of the three cams at the instant when that motion is the largest. As they rotate, the convexities, in consequence of the eccentricities of the centres, approach nearer and nearer—the ridges and rough surfaces, squeezing, rolling and kneading the iron in all directions, like squeezing a sponge in the hand. The cinders and impurities are thus ejected, and fall out beneath the machine; and the cams, in the latter part of their rotation, having closed the space between them to the smallest dimensions in the revolution, the bloom is elongated and ejected in the form of an iron cylinder. For the production of superior iron, it had hitherto been considered that the hammer was indispensable; but for all purposes of efficiency, rapidity of action and economy, this machine, it was assumed, would come into general use. From its strength and simplicity, it would not cost in repairs £20 a year; while a hammer involved expenses of ten times that amount, and the cost of replacing a broken hammer was well known in the iron trade to be a serious item. It turned out a finished bloom, entirely free from cinder in twelve seconds, the engine working moderately; while under the hammer it could not be completed under eighty seconds.—Thus by the machine, the cylindrical bloom, when ejected, was still at welding heat, and could be at once passed through the rolls, while from the hammer it had again to pass through the furnace.—*London Mechanics' Magazine.*

Mineral Veins, &c.

Every mining district has its conducting metalliferous channels, cross-courses, or feeding-pores; and the whole accumulated evidence obtained in all parts of the world clearly proves the fact, that the contents of the veins, or lodes, depend on the character of the rocks they traverse, as represented in the sketches. It is of great importance to bear this fact in mind, because veins, which have been particularly rich at one place, have often led persons to suppose that the continuation of the same lode must lead to equal riches, although such lodes may intersect barren rocks. After the discovery of rich mines, it was supposed that the adjoining setts would be equally productive; but old mining proprietors have, long ere this, been undeceived. To bring forward a sett to the notice of the public on the strength of its being situated near a good mining district, is very deceptive. Every mining establishment ought to be in possession of maps, showing the general bearings, undulations, and variations of their respective productive bands of ground, with the elvans and other rocks carefully laid down in a correct map by their agent—without which the explorations and selections of setts must be attended with great risks. Guess-work. "where it is there it is," is an extremely bad principle to go by, even with a good practical miner; but, when exposed to abuses and changes of agents, the consequences may be easily conceived. After incurring great expense in carrying on works through unproductive rocks, mines have frequently been abandoned, when within a few feet of a bunch of ore, for the want of knowing the character of the ground, flookans, slides, &c. On the other hand, works are carried on in unproductive ground at a great cost without a chance of success, simply because the lode happens to be in the same direction as a neighboring rich mine, or some other vague and indefinite indications; therefore, the practical knowledge of experienced miners reduced into a principle, so as to establish rules to avoid useless explorations, and lead to the discovery of the richer deposits, are objects of the greatest importance. It is essential to the interest of every mining proprietor to know the general character of the dissemination and local concentration of the minerals in the district, and indispensable to him in forming a judgment of the value of his property, and the mode of working adopted by the miner, to guard him from being led away by loose reports. The more closely and minutely the investigations are made, the more convincing are the results of this grand law of nature; therefore, this general principle of metalliferous crystallization may be safely applied to any mining district in every part of the world, to enable a person to know where the minerals have been principally accumulated, and where scarcity of minerals prevails. These laws of terrestrial physics are, therefore, obviously of vast importance to the practical miner; and the elucidation of the subject to the furthest practical extent is the greatest desideratum which now remains in the science of mining, since the operations carried on for the discovery of minerals not only constitute one of the heaviest expenses of mines, but it is the vague and precarious result of these trials which chiefly stamps the proverbial character of hazard and uncertainty which is attached to the pursuit.

The Koh-i-noor Diamond.

"The Koh-i-noor diamond, or 'mountain of light,' is believed by the Hindoos to have descended from their mythological heroes. It is 1¼ inches long, one inch broad, and rises half an inch above its gold setting. It weighs 280 carats, and is said to have weighed when rough 793 carats. This diamond is set in an amulet, with a diamond on each side, about the size of a sparrow's egg. Runjeet Sing has also a ruby of considerable size, with the names of several kings engraved on it, and among others those of Aurungzebe and Achmed Schah. He has also a topaz as large as a billiard-ball, for which he paid 20,000 rupees. The musnud of Aurungzebe was of solid gold, and, with the peacock ornament richly studded with jewels which crowned it, was estimated at 20 millions of gold. Over the palace at Delhi was this inscription:—'If there be heaven on earth it is here.' The Prince Aulumgeer, in 1658, deposed his father, Schah Jehan, emperor of Delhi, and usurped his throne. He caused to be constructed the famous 'Tukht-i-taoos,' or peacock throne, which represented in appropriate jewels a peacock, with its head overlooking, and its raised and spread tail overshadowing the person of the emperor when sitting on the throne. The natural hues of the bird were exquisitely imitated by the richest gems of the world, and the eyes were supplied by two celebrated diamonds, the largest known, called (as every Asiatic double name must have a single). 'Koh-i-noor," the 'mountain of light;' and 'Koh-i-Toor,'* 'the mountain of Sinai.' Having completed this throne, relinquishing the name of Aulumgeer, or 'Grasper of the Globe,' he assumed that of Aurungzebe, or 'Ornament of the Throne.' He died in 1707, aged 87, and his throne remained in possession of his successors till 1723, when Nadir Schah invaded Hindostan, took and plundered Delhi, and massacred 125,000 men, women, and children. Together with 60 millions of other plunder, he carried off and broke up the peacock throne; but, being assasinated on his return towards Persia, in the year 1729, his treasures fell to his general, Ahmed, chief of the Abdalli Afghans, of Cabul, called also the Doorani, from each man wearing a door, or pearl, in the right ear. He seized on the throne of Cabul; in the confusion of this exploit, the Koh-i-Toor was for ever lost. He kept possession of the Koh-i-noor and, dying, bequeathed it to his son and successor, Schah Timour, who left it with his crown to Schac Zemaum, his eldest son. He was deposed, and his eyes put out, by his next brother, Schah Shujahoolmoolk, who got the Koh-i-noor and the kingdom. He, in his turn, was ejected by Schah Mahmoud, the third brother, who was Schah, or king of Cabul. Schah Shujah, however, retained possession of the diamond, and he and Schah Zemaur, whom he had blinded, took refuge at the court of Runjeet Singh, the Rajah of Punjaub, in Hindostan, who at first received them hospitably, and made war on the usurper, Schah Mahmoud, from whom he took Cashmere *for himself*, which he held. But in a short time Runjeet began to oppress the two ex-kings, extorted all their wealth, and, finally, the Koh-i-noor from them. They then came over to Loodianah, in our territory, where they existed on the annual pension of 60,000 rupees (£6,000) each, and 6,000 rupees (£6,00) to each of their eldest sons. I saw them at Loodianah, on the Hyphasis, in 1812. Runjeet Singh had the diamond at Lahore his capital. A Bengalee shroot, or banker, named Seelchurd, resident at Loodianah, having occasion to visit Lahore on the Rajah's business, asked his highness for permission to see the jewel, which being granted, Seelchurd fell on his face and worshipped the stone!" Its subsequent history and recent capture by the Anglo-Indian army is too well known to need recapitulation.

* The Koh-i-Toor, "the mountain of Sinai," was plundered by Nadir Schah, afterwards taken from the Persians by the Russians, and is now one of the imperial crown jewels; it weighs 193 carats, and is valued at £369,800.

Ships, Roads, Railways, Canals.

There are employed in the yearly transit of Great Britain, with the world and with her own shores, 33,672 sailing vessels, and 1,110 steam vessels, employing 236,000 seamen. Calculating the value of each ship and cargo, as the value has been estimated before parliament, at £5,000, we have an aggregate value—sailing vessels, steomers, and their cargoes included, of £173,910,000. Further, supposing that the yearly wages of the seamen, including the officers, were £20 per head, the amount paid in wages would be £4,720,000. The railways now in operation in the United Kingdom extend 6,000 miles, the cost of their construction (paid and to be paid) having been estimated at upward of £350,-000,000. Last year they supplied the means of rapid travel to above 63,000,000 of passengers, who traversed above a billion of miles. Their receipts for the year approached 11¼ millions of money, and nearly three-quarters of a million of persons are dependent upon them for subsistence. The turnpike and other roads of Great Britain alone (independently of Ireland) present a surface of 120,000 miles in length, for the various purposes of interchange, commerce, and recreation. They are maintained by the yearly expenditure of a million and a half. For similar purposes the navigable canals and rivers of Great Britain and Ireland furnish an extent of 4,850 miles, formed at the cost of probably £35,000. Adding all these together, we have of turnpike roads, railways, and canals, no less than 130,000 and odd miles, formed at an aggregate cost of unwards of £386,000,000. If we add to this £54,250,000 capital expended in the mercantile marine, we have the gross total of more than £440,000,000 of money sunk in the transit of the country. If the number of miles traversed by the natives of this country in the course of the year by sea, road, rail, river, and canal, were summed up, it would reach to a distance greater than the remotest planet yet discovered.

We extract from the London Builder the organizations and functions of the Juries by whom the prizes are to be awarded in the Great Exhibition:

There are thirty juries, one for each of the thirty classes into which the articles exhibited have been divided, and these juries are formed into six groups. Each jury has a chairman, and has elected from its own body a deputy-chairman and a reporter, the duty of the latter being, as the title tells, to draw up a report upon the class of subjects submitted to his jury. These reports will be published, and if properly made, will describe the state of industry of all nations, and form a permanent record of the Exhibition itself. The juries have to award two medals, the premium size (to be called the "Prize Medal") and the large medal. The small medal has been withdrawn, and will be disposed of by the Royal Commissioners, probably presented to those who, although unrewarded by the juries, are thought to deserve acknowledgment for assistance afforded by them. When a jury has decided on its awards, these awards will have to be submitted to a meeting of all the juries in the same group for confirmation: they will then go to the council of chairmen, to secure uniformity of acting, and will become final as soon as the latter report that they are in conformity to the rules laid down.

The great medal is to be awarded by the council of chairmen only, upon the recommendation made

to that body by the juries: each jury must obtain the sanction of its group of juries to its recommendation of the great medal, before the council of chairmen can take the recommendation into consideration. This medal is to be given only for very pre-eminent and indisputable merit; and the number distributed will be small. The medals, we may add, are to be awarded for excellence only, without reference to countries, or to degrees in the same kind of merit. Instructions as to the grounds on which according to the class, medals are to be awarded, have been given to the juries; and the foreign members of the different juries seem to fall very readily into the work.

American Railroad Journal.

Saturday, September 6, 1851.

☞ The Editor begs to plead his own illness as an excuse for the appearance of the present No. of the JOURNAL.

New York.

Buffalo and New York City Railroad.—This company, having failed to secure the track of the Attica and Buffalo road, have let the contract for the construction of their road from Attica to Buffalo, to Messrs. Lauman, Rockafellow & Moore, who are to receive in payment, one-third cash, one-third bonds, and one-third stock of the company.

Six cargoes of rails have been landed at New York for this company, and part of it was to be delivered at Dansville this week, while other portions are to be received at Hornellsville, Nunda, Portageville, Cuylerville and Attica.

The Warsaw Mirror states, that between Hornellsville and Portageville, "they will commence laying the iron next week." The whole line is under contract now, and will be pushed forward to completion a little more rapidly than any other of equal magnitude has been in this country.

Buffalo and Conhocton Railroad.—The LeRoy Courier, of Saturday last, states that the President and Directors of this road met at Avon last Wednesday, to receive proposals for constructing the road from the Steuben county line through Livingston and Genesee counties to Batavia. A large number of contractors were present, and over one hundred bids were presented. We understand a proposition was made by one man to take the entire contract from the line of Steuben county to Batavia, at fair prices, and assume as part payment therefor, $100,000 of stock.

Hudson River Railroad.—Before the 1st of October, it is announced that this road will be in operation to Albany. Geo. B. Butler, Esq., secretary and legal agent of the company, has resigned his position, and he becomes a partner and assistant editor of the New York Journal of Commerce.—James Boorman, Esq., of New York, President of the company, resigns his office on the completion of the road, and Wm. C. Young, Esq., the present chief engineer of the road, is to take his place.—When this road is completed, we shall be able to go to Albany in five hours, at most.

Missouri.

Hannibal and St. Joseph Road.—The Marion County Court has made an order for the issue of bonds for $100,000, the sum voted by the people to be exchanged with the company for certificates of stock.

Pacific Railroad.—The people of Greene county have authorized the county court to subscribe $100,000 to this important work. The people of Jasper have authorized the subscription of $20,000.

The Railroad Bridge at Frankfort.

The Frankfort Yeoman announces that this bridge has been completed, and that "the locomotives, with the usual train of cars, passed over it with perfect safety, and without the smallest appearance of injury to the bridge."

Stock and Money Market.

The state of the market remains unchanged.—Money for extraordinary purposes, continues difficult to be had. Bonds of new works are almost a drug in the market, and are sold with great difficulty, and we repeat the advice which we have given to our friends in several of our last numbers, to keep away from eastern markets till we can give notice of a favorable change.

The prospect now is, that money will rule high the rest of the season. It is too late for any important improvement to take place. Fall business is commencing, which will absorb a large amount of capital. Our importations continue large, with unabated shipments of specie. The public mind is greatly excited upon the state of our financial affairs. And even if the present pressure is without reason, it will require time to bring things back into their old channel. There cannot be a doubt, however, that the recent reverse will have a favorable effect in the end. It is necessary occasionally to check our ordinary speed. It is not natural, and the oftener these checks occur, they will accomplish the greatest good, with the least harm.

The Buffalo Express mentions as a new feature in trade, that "the first shipment of corn from the Upper Mississippi, by the way of Chicago and Buffalo, to New York, was made on the 13th of last June, from Fort Madison, Iowa, situated about 200 miles above the mouth of the Illinois river. This consignment, some 13,000 bushels, was purchased by Mr. R. F. Hazard, and by him shipped to G. S. Hazard of this city. At Fort Madison, about 7,000 bushels were shipped in bulk, on board the canal boats Indiana and Heonepin, and the balance in sacks on board steamer Kentucky, which took the canal boats in tow, and proceeded to La Salle, the terminus of the Illinois and Michigan canal. At that point the cargo of the Kentucky was transferred to canal boats, and all brought to Chicago by canal. At Chicago it was shipped on board brig Fashion for Buffalo. The whole cost of transportation from Fort Madison to New York, a distance of some 2,000 miles, was about 28 cents per bushel."

The following shows the Coinage of the Philadelphia Mint for the month of August:

Gold.	Pieces.	Amount.
Double Eagles	158,141	$3,162,820 00
Eagles	7,623	76,230 00
Half Eagles	44,655	223,275 00
Quarter Eagles	125,058	312 645 00
Gold Dollars	203,359	303,359 00
Total	638,836	$4,078,329 00
Silver.	Pieces.	Amount.
Half Dollars	18,000	9,000 00
Quarter Dollars	20,000	5,000 00
Three Cent Pieces	352,200	10,566 00
Total	1,029,036	$4,102,895 00
Copper.	Pieces.	Amount.
Cents	796,475	$7,964 75
Total	1,835,511	$4,110,859 75

Gold Bullion deposited for coinage from 1st to 31st August inclusive:

From California	$4,048,800
From other sources	96,000
Total	$4,144,800
Silver bullion deposited in same time	$29,000

The total coinage at the Philadelphia Mint from January to August inclusive, amounts to $31,664,316, of which the gold coinage was $31,339,080.—The annexed table will show the coinage in each month:

	Gold.	Silver.	3 cent.	Copper.	Total.
Jan..	$2,620,966	$76,950		$7,277	$2,705,193
Feb..	5,082,987	15,500		16,861	5,115,348
March	6,285,735	6,400		6,537	6,293,672
April	3,176,058	2,400		13,337	3,191,793
May.	3,201.272		37,638	9,699	3,248,599
June.	3,653,248	18,050	28,395	10,165	3,709.858
July.	3,240 495	13,700	21,582	8,215	3,283,992
Aug.	4,078,329	14,000	10,566	7,964	4,110,859
Tot.	$31,339,080	147,000	98,181	80,055	31,664,316

The deposits of the precious metals at the Mint in each month of the present year, were as annexed. The deposits from California, it will be seen, were $27,097,300:

	Cal. gold.	Other gold.	Silver.	Total.
January...	$4,940,000	$60,000		$5,000,000
February..	2,860 000	140,000	7,700	3.007,700
March.....	2,634,900	37,000	8,400	2,679,400
April.....	2,785,500	75,000	18,000	2 878,500
May.....	3,205,600	65,600	14,800	3,786,288
June.....	3,570,000	60,000	11,700	3,641,700
Ju'y.....	3,053,000	77,000	13 800	3,143,800
August....	4,048,800	96,000	29,000	4,173,800
Totals..	$27,097,800	$660,600	$103,400	$27,810,900

The Evening Journal gives the annexed statement of the quantity of flour, wheat, corn and barley, left at tide water during the 4th week in August in the years 1850 and 1851, as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1850...	105,219	201,892	129,452	18,977
1851...	82,925	71,184	223,405	9,653
Dec	22,294	130,708	Inc. 93,953	dec.9,324

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 31st August, inclusive, during the years 1850 and 1851, is as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1850...	1,157,207	711.794	2,488,212	159,730
1851...	1,810,855	1,350,800	5,285,747	131,613
Inc....	653,648	639,006	2,797,535	dec.28,117

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 31st August, inclusive, during the years 1849 and 1851, is as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1849....	1,340,256	894,574	3,662,532	105,237
1851....	1,810,885	1,350,800	5,285,747	131,613
Increase.	470,599	456,226	1,623,215	26,376

By reducing the wheat to flour, the quantity of the latter left at tide water this year, compared with the corresponding period of last year, shows an increase of 781,449 bbls. of flour.

The Oswego Times furnishes the following comparative statement of the shipments by canal during the third week in August, for three seasons:

	1849.	1850.	1851.
Flour, bbls	15,095	18,007	30,684
Wheat, bush	32,339	20,384	18,976
Corn, bush	10,006	24,242	98,480
Ashes, bbls	505	269	122
Pork, bbls	436	15	620
Wool, lbs	33,518	18,945	4,549
Lumber, ft	2,150,196	2,687,372	4,588,108

Tolls collected the 3d week in August, with the total from the opening of navigation to August 22, for two seasons:

	3d week in Aug.	Total.
1851	$13.194 47	$182,199 66
1850	8,057 86	139,952 59
Increase	$5,136 71	$42,247 07

From the 13th to the 19th of August, inclusive, 148 vessels passed the Welland canal—74 up and 74 down. Of those passing down, the cargoes of 46 were bound to Oswego, 21 down the St. Lawrence, 4 to Ogdensburg, 2 to St. Catherines, and 1 to Toronto.

New York and New Haven Railroad.—The earnings of the New York and New Haven railroad for August, continue to show a considerable increase over last year. The amount received was, after paying other roads—

Passengers	$62,817 88
Freight	8,000 00
Earnings	70,817 88
Paid Harlem railroad for 62,334 passengers	4,815 00
Earnings	66,002 15
Net earnings, August, 1850	54,805 00
Increase over 20 per cent	$11,193 15

Columbia, Penn., Railroad.—The receipts at the office of the Collector of the Columbia railroad, Philadelphia, for the month of August, and for the year thus far, have been as follows:

Amount as per last report	$230,294 18
Do. month ending August 31, 1851	49,863 02
Whole amount since Nov. 30, 1850	280,157 20
Same time last year	244,774 70
Increase	$35,382 50

Erie Railroad.—The receipts of the Erie railroad for August are unexpectedly large, and show a considerable gain on the estimates of the company. Compared with July they show a gain of over $35,000, or more than $1,200 per day.

Passengers and mail	$153,793 05
Freight	110,171 08
	263,964 12
Same month, 1850	129,206 12
Increase	$134,758 00

The earnings of the Michigan Central railroad for July show a large increase over the corresponding month of last year, as will be seen by the following comparison:

	1850.	1851.
Freight	$11.324 66	$23,048 14
Passengers	42,100 51	62,132 46
Miscellaneous	3,159 86	2,041 56
Total	$56,585 03	$87,582 16
		56,585 03
Increase		$30,997 13

This shows an increase for the last month of nearly 55 per cent.

Virginia Central Railroad.—The receipts of the Central railroad company of Virginia, for the first 6 months, in each of the past two years, were as annexed:—

For passengers	$30,111 75
For freight	37,058 22
Total	$68,069 95
Receipts from 1st January to 1st July, 1850:—	
For passengers	$19,064 97
For freight	14,056 19
	33,121 16
Increase	$34,948 81

It will be observed that the increase in the receipts for freight is much greater than in those for passengers.

The following are the receipts of the Xena railroad, for

June, 1851	$46,571 35
July, 1851	18,364 58

Cleveland and Columbus Railroad.—The business on the Cleveland, Columbus and Cincinnati railroad continues to increase in a remarkable degree. The receipts for the present month of August, will exceed $60,000.

The receipts on the Little Miami railroad for the week ending 16th Aug., were $11,292 73
For corresponding time last year 8,479 18
Increase $2,813 55
—or 34 per cent.

Ohio and Pennsylvania Railroad.—The Pittsburgh Gazette says that the number of passengers carried on the Ohio and Pennsylvania railroad in the week ending Saturday, August 23, was 2,194; or an average of 365 per day. The receipts were $2,093 92 on the 28 miles of road in use, and the work was done with one engine and one passenger train.

Louisville and Frankfort Railroad.—The receipts in the first fifteen days of August were as follows:—

Receipts from passengers	$3,714 20
" " freight	1,488 28
" " mail	270 83
Total	$5,473 31

This is a very fair exhibit for half a month in the dull season of the year, and shows a very great increase on the business of the preceding periods.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE
AMERICAN RAILROAD JOURNAL.

NEW YORK SEPTEMBER 6, 1851.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	100¾
U. S. 6's, 1856	105½
U. S. 6's, 1862	110
U. S. 6's, 1862—coupon	113a114
U. S. 6's, 1867	115½
U. S. 6's, 1868	116
U. S. 6's, 1868—coupon	123½
Land Warrants	140a145
Arkansas 6's	52a53
Alabama 5's	91a92
Indiana 5's	78½
Illinois 6's, 1870	65a68
Kentucky 6's, 1871	105a106
Massachusetts sterling 5's	105a106
Massachusetts 5's, 1859	100½
Maine 6's, 1855	103
Maryland 6's	102½
Michigan	—
Mississippi	—
New York 6's, 1865	117a118
Ohio 6's, 1860	110
Pennsylvania 5's	90½

RAILROAD BONDS.

Atlantic and St. Lawrence, 6 per cent	85
Baltimore and Ohio, 1867	94½
Boston and Providence 6's, 1855	101
Boston and Worcester 6's, 1855, convertible	107½
Bost., Concord and Mont. 6's, 1860, mortgage	87½
Cheshire 6's, 1860	91½
Connecticut River 6's, convertible	98
Erie 7's, 1859	101
Erie 7's, 1868	107½
Erie income 7's	91
Hudson River 7's, 1853	101½
Michigan Central, convertible, 8's, 1856	104½
New York and New Haven	100½
Norwich and Worcester, mortgage, 1860	80a85
Old Colony, 1854	97½
Ogdensburg 7's, 1859	91½
Portsmouth and Concord	80a85
Passumpsic 6's, 1859	94½
Rutland 7's, 1863	97
Reading mortgage, 1860	80
" " 1870	75
Sullivan, mortgage 6's, 1855	80
Vermont Central 6's, 1852	96½
" " 6's, 1856	91½
Vermont and Massachusetts 6's, 1855	86½

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Sept. 3.	Aug. 27.
Albany and Schenectady	96½	—
Atlantic and St. Lawrence	60a65	—
Androscoggin and Kennebec	30a35	—
Boston and Maine	102	102
Boston and Lowell	109	109
Boston and Worcester	101	100½
Boston and Providence	84½	84½
Bost., Concord and Montreal	40	—
Baltimore and Ohio	71½	—
Baltimore and Susquehanna	36	—
Cheshire	53	—
Cleveland and Columbus	—	—
Columbus and Xenia	—	—
Camden and Amboy	—	—
Connecticut River	60	—
Delaware and Hudson (canal)	—	—
Eastern	95	96
Erie	77½	73½
Fall River	92½	91½
Fitchburgh	108½	108½
Georgia	—	—
Georgia Central	—	—
Harlem	69	68
Hartford and New Haven	124	—
Housatonic (preferred)	52	—
Hudson River	72	—
Kennebec and Portland	50a55	—
Little Miami	—	—
Long Island	15	14½
Mad River	—	—
Madison and Indianapolis	96	—
Michigan Central	104½	104½
Montgomery and West Point	—	—
Michigan Southern	—	—
Manchester and Lawrence	97	89
Morris (canal)	14½	15½
New York and New Haven	107	107½
New Jersey	133	—
Northern	66	66½
Nashua and Lowell	107½	—
New Bedford and Taunton	111	—
Norwich and Worcester	51½	52½
Norfolk County	20	—
Ogdensburgh	34	32½
Old Colony	66	66
Passumpsic	80	—
Pennsylvania	—	—
Pittsfield and North Adams	95	—
Philadelphia, Wilm'gton & Balt.	28	29
Petersburg	—	—
Richmond and Fredericksburg	—	—
Richmond and Petersburg	—	—
Reading	55	53½
Rochester and Syracuse	107	106½
Rutland	53	47
Stonington	43½	42½
South Carolina	—	—
Syracuse and Utica	123	—
Sullivan	25	—
Taunton Branch	108	—
Troy and Greenbush	90	—
Tonawanda	—	—
Utica and Schenectady	130	—
Vermont and Canada	103	—
Vermont Central	34	31½
Vermont and Massachusetts	25½	25½
Virginia Central	—	—
Western	102½	102
Wilmington and Raleigh	—	—
York and Cumberland (Pa.)	20	—

Construction of Steam Boilers.

In the construction of steam boilers, the object being to attain the maximum of strength with the minimum of material, there is an absolute necessity for adhering to form and other considerations usual in the practice of mechanical engineers.—Any increase in the thickness of the plates obstructs the transmission of heat, and exposes the rivets as well as the plates to injury on the side exposed to the action of the furnace. It has generally been supposed that the rolling of boiler plate iron gives to the sheets greater tenacity in the direction of their length than in that of their breadth; but a series of experiments instituted some years since by

Mr. Fairbairn, an eminent English engineer, gives different results; they show that there is very little difference in the tensile strength of boiler plates when torn asunder in the direction of the fibre, or across it. From five different sorts of iron, the following results were obtained:—

	Mean breaking weight in tons in the direction of the fibre.	Mean breaking weight in tons across the fibre.
Yorkshire plates	25.77	27.49
Yorkshire plates	22.76	26.37
Derbyshire "	21.68	18.65
Shropshire "	22.82	22.00
Staffordshire "	19.56	21.01
Average	22.51	23.10

From this it would seem that iron plates may safely be used in the construction of boilers, in whatever direction may best suit the convenience of the maker. The next point to be considered is the best and surest mode of securing them together. At first sight it would appear that riveted joints are stronger than the plate itself, but a little reflection will soon show that this is erroneous; for in punching holes along the edge of a plate, it is obvious that the plate must be weakened to the extent of the sectional areas punched out, and that it is next to impossible, under the circumstances, to retain the same strength in the material after such diminution has been effected, as existed in the previously solid plate. This has also been tested by experiment; and assuming the strength of the plate to be 100, the strength of a double rivetted joint would be, after allowing for the adhesion of the surfaces of the plate, as 70; and the strength of a single riveted joint, as 56.

In the construction of boilers exposed to severe internal pressure it is desirable to establish such forms, and so to dispose the material as to apply the greatest strength in the direction of the greatest strain. This matter has been the subject of careful inquiry and experimental research. The following is a short abstract of the calculation of Prof. W. R. Johnson, of the Franklin Institute, Philadelphia, the weight of whose opinions entitles them to serious consideration:—

"1st. To know the force which tends to burst a cylindrical vessel in the longitudinal direction, or in other words to separate the *head* from the curved *sides;* we have only to consider the actual area of the head, and to multiply the units of *surface* by the number of units of *force* applied to each superficial unit. This will give the total *divellent* force in that direction.

"To counteract this, we have, or may be conceived to have, the tenacity of as many longitudinal bars as there are lineal units in the circumference of the cylinder. The united strength of these bars constitute the total retaining or *quiescent* force and at the moment when rupture is about to take place, the divellent and quiescent forces must obviously be equal.

2nd. To ascertain the amount of force which tends to rupture the cylinder along the curved side, or rather along the opposite side, we may regard the pressure as applied through the whole breadth of the cylinder upon each lineal unit of the diameter. Hence the total amount of force which would tend to divide the cylinder in halves, by separating it along two lines in opposite sides, would be represented by multiplying the diameter by the force exerted on each unit of surface, and this product by the length of the cylinder. But even without regarding the length, we may consider the force requisite to rupture a single band in the direction now supposed, and of one lineal unit in breadth; since it obviously makes no difference whether the cylinder be long or short, in respect to the ease or difficulty of separating the sides. The divellent force in this direction is therefore truly represented by the diameter multiplied by the pressure per unit of surface. The retaining or quiescent force, in the same direction, is only the strength or tenacity of the two opposite sides of the supposed bond.—Here, also, at the moment when a rupture is about to occur, the divellent force must exactly equal the quiescent force."

Mr. Johnson then goes on to show that as the diameter is increased, the product of the diameter and the force or pressure per unit of surface is increased in the same ratio. When the diameter of a boiler is increased, it must be borne in mind that the area of the ends is also increased, not in the ratio of the diameter, but in the ratio of the square of the diameter; and it will be seen that instead of the force being doubled, as is the case in the direction of the diameter and circumference, it is quadrupled upon the ends, or in other words, a cylinder double the diameter of another cylinder, has to sustain four times the pressure in the longitudinal direction. The retaining force, or the thickness of the metal of a cylindrical boiler, does not, however, increase in the same ratio as the area of the circle, but simply in the ratio of the diameter; consequently, the thickness of the metal will require to be increased in the same ratio as the diameter is increased.

The following table exhibits the proportionate strength of cylindrical boilers from three to eight feet in diameter, showing the thickness of metal in each, respectively, required to withstand the maximum pressure of 450 lbs. to the square inch:—

Diameter of boilers.	Thickness of the plates in decimal parts of an inch.
3 feet 0 inches	.250
3 " 6 "	.291
4 " 0 "	.333
4 " 6 "	.376
5 " 0 "	.416
5 " 6 "	.458
6 " 0 "	.500
6 " 6 "	.541
7 " 0 "	.583
7 " 6 "	.625
8 " 0 "	.666

In order to ensure safety, every description of boilers used in manufactories, and also those on board steamers, should be constructed to a bursting pressure of 400 to 500 lbs. on the square inch; and locomotive engine boilers, which are subjected to much severer duty, to a bursting pressure of 600 to 700 lbs.

Baltimore and Susquehannah Railroad.

It will be seen by the advertisement in another column, that this company will receive proposals, in whole or part, for a loan of $100,000. The loan will be made in conformity with the act of Assembly authorizing it, and which has been approved by the stockholders and city corporation of Baltimore. The concerns of this company, it is well known, have been for several years past in a condition of steady improvement; its business operations, including both travel and transportation, have exhibited a gratifying enlargement, and its revenues have shown a corresponding increase.

The following statistics of the operations of the road within the last twelve months are derived from an authentic source, and will be read with interest and gratification by all who take pleasure in the onward progress of our city:—

The gross receipts of the company from October 1st, 1850, to June 30th, 1451, have been as follows:

From	Passengers.	Burden.	Total.
	$64,223.23	189,761.70	253,984.92
Same time last year	58,983.71	145,112 51	204,096.22
Increase	$5,239.52	44.649.19	49,888.70

The increase for October, November and December was ..... $ 5,990.32
" " January, Feb. and March .. 24 970.70
" " April, May and June 18,927 68
$49,888.70

Under the operation of the law authorizing the funding of the arrearages of interest, the fiscal year of the company hereafter commences with January, and ends with December, so that for the first six months of the present fiscal year the increase in the company's receipts over the same period of last year has been within a fraction of $43,000.

We take pleasure in pointing to these evidences of the prosperous condition and future promise of this well managed work, as reliable guarantees for the punctual and faithful payment of the interest and redemption of the principal of the loan which the company now proposes to create, and we doubt not that the required amount will be promptly furnished.—*Baltimore American.*

The Southwestern Carrying Trade.

A recent number of the Albany Evening Journal contains an ably written article, from a citizen of Kentucky, in relation to the transportation of the great staple products of the south and southwest, viz: tobacco, cotton and hemp, over the northern route, instead of going as they now do, by the way of New Orleans. He shows by conclusive arguments, that the northern route is the most economical in cost of transportation, by far the most expeditious as to time, and much the safest as to the dangers and risks of navigation. Some of the commission merchants at Louisville have tested the article of tobacco by actual shipments, made at their own risk, by the canal and lake route, and fully satisfied themselves that the northern route has the advantage by some four dollars a hogshead in the cost and expenses of transportation. The cost of shipping a hogshead of tobacco, the average weight of which is 1,200 pounds, via New Orleans, is as follows:—

Drayage at Louisville per hhd	$ 50
Freight from New Orleans varies from $3 to $3 50 per hhd., average price say	3 25
Insurance to New Orleans per hhd	62½
Charges in New Orleans per hhd	1 75
Freight by ship from New Orleans to New York	7 00
Insurance from New Orleans to New York.	2 00
Making the total expense	$15 12½

Per hhd. The cost of transportation of the same hogshead of tobacco from Louisville via Cincinnati the lakes and the canals, to the Atlantic cities has been:—

Drayage in Louisville per hhd	$ 25
Freight from Louisville to Cincinnati per hhd	1 00
Charges in Cincinnati per hhd	50
Freights per hhd by canal, lake, &c	7 75
Insurance from Louisville to New York	1 12½
Total	$10 62½

Showing a difference in favor of the lake route of $4 50 per hogshead—a sufficient margin for a good profit to the large operator.

It will be seen by reference to the two tables above presented, that there is a difference of one-half in the item of drayage at Louisville in favor of the northern over the southern route. The reasons of this difference is thus explained. The falls of the Ohio at Louisville create such an obstruction to navigation as to prevent the large class of boats running between that city and New Orleans, from receiving or discharging freight except at Portland, below the falls, and some two or three miles distant from the regular steamboat landing at Louisville. This distance entitles the draymen to double drayage. The same article of freight going by the northern route, is received on board the Cincinnati boats at the city wharf, where the expense of drayage is but twenty five cents.

The writer then refers to the item of cotton, and

goes on to show that after the cotton has been transported from its original point of shipment on the Tennessee, Mississippi, or Ohio rivers, to New Orleans, it actually costs more to send it from that port to New York, than the whole expense of transportation from Louisville to New York over the northern route. A bale of cotton will average in weight 500 lbs. The cost of transportation of 100 bales from New Orleans to New York city, would be—

Freight on 100 bales weighing 50,000 lbs., at 50c per 100 lbs	$250 00
Insurance on value, say $3,000, at 1½ per cent	45 00
Commissions, forwarding and drayage at New Orleans, as per established rates, 50 cents per bale	50 00
Making total costs and charges of transportation of 100 bales of cotton from New Orleans to New York	$345 00

On the northern route, the cost of transportation of 100 bales of cotton from Louisville to New York is as follows:—

Freight on 100 bales, weighing 50,000 lbs., at 57 cents per 100 lbs., (at which rate it is offered by responsible common carriers to be taken for,) is	$285 00
Drayage at Louisville, 6¼ cents per bale	6 25
Forwarding, 10 cents per bale	10 00
Insurance on $3,000, ½ per cent is	15 00
Total	$316 25

Thus making a difference in favor of the northern over the southern route equal to *thirty cents a bale* in cost of transportation. There is, however, still another and most material item to be taken into consideration, which when exhibited will make the advantage of the northern over the southern route still greater. This is the item of *Exchange*, which always enters largely into the calculations of the well informed and shrewd merchant. These are the comparative rates between the two cities and New York:—

Louisville exchange on New York at 60 days discount is	1 per cent.
Louisville exchange on New York at 120 days discount is	2½ "
New Orleans exchange on New York at 60 days discount, average, is	2½ "
New Orleans exchange on New York at 120 days discount, average, is	5 "

Which exhibits a difference in favor of Louisville, in the simple item of exchange, equal to $1 15 on each bale, and when added to the thirty cents in transportation as shown by the above table, gives the holder of cotton sending from Louisville by the northern route a saving of $1 45 per bale, over the holder shipping from New Orleans to the same northern mart.

But the inquiry may arise whether the cotton, when ready for market, can be delivered at Louisville at the same cost of transportation for which it can be sent to New Orleans. The export of cotton from Memphis, Tennessee, to New Orleans, varies from 135,000 to 150,000 bales per annum—the amount gradually but constantly increasing. The distance by river navigation is less from Memphis to Louisville, than it is from Memphis to New Orleans; and it is stated by captains of steamers engaged in the cotton carrying trade on the Mississippi, that a bale of cotton could be freighted from Memphis to Louisville at a less cost than it could be carried from the same point to New Orleans.

For all the cotton coming out of the Tennessee river, which is immense, and some idea of which may be accurately arrived at, from the statement of the fact that the annual exports from Nashville alone amount to from thirty-five to forty thousand bales, the difference of placing it at Louisville instead of sending it to New Orleans is still more apparent in favor of Louisville.

The following is a comparative estimate of the cost of freighting a hundred bales of cotton from Nashville or other points on the Tennessee river, to New Orleans, and from the same points to Louisville:—

Freight from Tennessee river on 100 bales to New Orleans, at average of $1.65 a bale	$165
Charges at New Orleans, 50 cts. a bale	50
Total	$215
Freight from Tennessee river on 100 bales to Louisville, at average rate of $1 per bale, is	$100
Charges at Louisville, 16 cts. a bale	16
Total	$116

Making a difference upon all cotton sent out of the Tennessee river, when forwarded to Louisville instead of New Orleans, of ninety nine cents a bale, or of ninety-nine dollars upon every 100 bales. Thus it will be perceived that by making Louisville his depot for trans-shipment, instead of New Orleans, the cotton planter will reap a double advantage. He can send his cotton to Louisville cheaper than to New Orleans, while from Louisville it can be forwarded to New York over the Northern route, cheaper than from New Orleans to New York.

The advantage is equally great in the other articles of hemp, pork, lard, flour, &c., which are raised in the great Mississippi Valley.

It is said that the cotton crop this year in the whole South will not fall much, if any, short of three million bales. Of this, there is consumed in the Northern states, for manufacturing purposes, not far from four hundred thousand bales per annum, equal to one hundred thousand tons. Every bale of this cotton brought by the Northern instead of the Southern route, can be placed at the doors of the New England manufacturers at a cent per pound less in cost, than what it can at any time be purchased for when the Southern route of transportation is adhered to.

To be continued

Railroads in Indiana.

The Indiana State Journal gives the following *resume* of the condition of the various railway projects in this state:—

Bellefontaine Road.—The iron will be laid to Muncie, in all probability, in November. The residue of the road to the state line is mostly graded and all under contract.

Evansville and Vincennes Road.—This is finished, and in operation, for a few miles north of Evansville. It is to connect, by the Wabash road, at Terre Haute, with the great East and West Central road.

Goshen Railroad.—The papers announce that this work, from Goshen to Elkhart was put under contract at South Bend on the 8th ult., to be ready for the superstructure by the first of June next. A corps of engineers are now surveying and locating the route.

Indiana Central Road.—Most of the line, 71½ miles in length, has been let to contractors. About $150,000 have been subscribed to its stock, and the president and directors are actively engaged in increasing the subscription and advancing the interests of the work.

Jeffersonville and Columbus Road.—The cars are now running on this railway to Vienna, in Scott county, about twenty-seven miles from Jeffersonville.

Knightstown and Shelbyville Road.—Completed last fall and doing a good business.

Lawrenceburg and Upper Mississippi Road.—It is expected this road will be completed at least to Shelbyville the coming year. The first shipment of iron is daily expected, and will be laid down immediately.

Lafayette and Indianapolis Road.—The necessary locomotives and other equipments have been purchased, and with the iron, will be received in a week or two. A considerable portion of the track will be laid this fall. The grading and bridging of the entire route are rapidly progressing.

Lake Michigan, Logansport and Ohio River Railroad.—The engineers are now engaged in making a survey of this road.

Newcastle and Richmond Railroad.—This line is now all under contract, and rapidly approaching completion, from Richmond to Newcastle. The extension from Newcastle to Logansport is under survey, and funds have been subscribed sufficient for its construction. The entire line from Logansport to Cincinnati will be over 160 miles in length.

New Albany and Salem Railroad.—The cars are now running over about 56 miles of this road, to Orleans, and the work is progressing rapidly along the entire line to Gosport, on the west branch of White River.

Northern Indiana Road.—This is an extension of the Michigan Southern railroad, and it is the design of the company to push the road through to Chicago by January next. It will probably be in use at least next spring or summer.

The Madison and Indianapolis Railroad is doing a good business as usual. The last semi-annual report of the company showed an increase of its business over the corresponding six months of the preceding year, of over fifty-one per cent. The track is now in good condition, being all laid with T rail.

Martinsville and Franklin Railroad.—This, we believe, is mostly graded, a portion of it ready for the iron, which is to be furnished by the Madison and Indianapolis road; so that it will speedily be completed.

Peru and Indianapolis Railroad.—The cars are running daily from Indianapolis to Noblesville, and a contract has been made with a New York company to complete it to Peru by November of next year.

Terre Haute and Indianapolis Railroad.—The cars daily run ten miles upon the Eastern end of the road, and workmen are putting down iron at both ends of the line. About twelve miles are in running order at the Terre Haute end.

Wabash Railroad.—This road leads from Vincennes to Terre Haute. There seems to be little doing in regard to it at present, the energies of the Terre Haute people being entirely devoted to the Eastern and Western road for the present. When that shall have been completed, they will in all probability take hold of the former enterprise, and push it through with their accustomed energy.

Lake Shore Railroad.

The work on this important road is rapidly progressing in Ohio. The Conneaut Reporter understands that the portion between Ashtabula and the Pennsylvania line is to be rapidly pushed forward to completion. The line of the road in Chautauque county is much of it ready for the rails, a large quantity of which have been received during the past few weeks.

Ohio.

The following is a portion of the railroads in operation and in progress in Ohio.

	Railroads in operation.	Railroads in progress.
Cleveland and Columbus	135	....
Alfred Kelley, Pres't, Columbus.		
Columbus and Lake Erie	61	....
J. Dille, Pres't, Newark.		
Dayton and Springfield (branch)	24	....
Findlay "	16	....
Little Miami	84	....
Jacob Strader, Pres't, Cincinnati.		
Mad River	134	....
E. Lane, Pres't, Sandusky.		
Sandusky and Mansfield	56	....
J. G. Forbes, Pres't.		
Xenia and Columbus	54	....
A. Kelley, Pres't, Columbus.		
Bellefontaine and Indiana	..	118
J. H. Godman, Pres't, Marion.		
Cincinnati and Marietta	..	188
W. P. Cutler, Pres't, Marietta.		
Cleveland and Pittsburgh	40	58
C. Prentiss, Pres't, Ravenna.		
Cleveland, Norwalk and Toledo	..	78
C. L. Boalt, Pres't, Norwalk.		
Cleveland, Painsville and Ashtabula	..	71½
H. B. Ely, Pres't, Cleveland.		
Columbus, Urbanna and Piqua	..	86
M. G. Mitchell, Pres't, Piqua.		
Cincinnati, Wilmington and Zanesville.	..	150
F. Corwin, Pres't, Wilmington.		
Cincinnati, Hamilton and Dayton	..	60
S. S. L'Hommedieu, Pres't, Cincinnati.		
Dayton and Western	..	35½
P. P. Lowe, Pres't, Dayton.		
Dayton and Xenia	..	15
Greenville and Miami	..	50
E. B. Taylor, Pres't, Greenville.		
Hamilton and Eaton	..	36
A. Haines, Pres't, Eaton.		
Hillsboro	..	37
J. M. Trimble, Pres't, Hillsboro.		
Iron	..	50
C. Briggs, Pres't, Ironton.		
Junction	..	110½
E. Lane, Pres't, Sandusky.		
Ohio and Indiana	..	126
Willis Merriman, Pres't, Bucyrus. Ohio.		
Ohio and Mississippi	..	20
A. T. Ellis, Pres't, Vincennes, Ia.		
Ohio and Pennsylvania	..	185
Wm Robinson, Pres't, Pittsburgh, Pa.		
Ohio Central	..	140
J. H. Sullivan, Pres't, Zanesville.		
Scioto and Hocking Valley	..	100
J. V. Robinson, Pres't, Portsmouth.		
Steubenville and Indiana	..	121
D. Kilgore, Pres't, Steubenville.		

Pennsylvania.

Pittsburg and Erie Railroad.—The Mercer Luminary learns that the entire line of the Pittsburg and Erie railroad, from the town of Erie to the junction with the Ohio and Pennsylvania railroad at Enon valley, was contracted for at Erie, on the 13th ult. There was quite an animated competition among bidders, and it is said the work has fallen into competent hands.

Indiana.

Evansville Railroad.—A meeting was recently held at Vincennes, which was attended by a large number of the citizens of Knox and Gibson counties, in favor of the immediate completion of this road. Judge Hall, the President of the company, delivered an address, showing that the affairs of the company were in a prosperous condition, and he promised that the road should be put under contract from Princeton to Vincennes this fall if a sufficient amount of subscriptions of stock could be procured. Resolutions were adopted to make vigorous efforts to raise the necessary means to accomplish this desirable object.

Georgia.

Western and Atlantic Railroad.—The defective rails on this road have been nearly all removed, and the track re-laid with good ones. The passenger and freight receipts are quite large; and two new passenger cars, manufactured at Augusta, have recently been put on the road to accommodate the increasing business.

Ohio.

Steubenville and Indiana Railroad.—The township of Jefferson has voted a subscription of $100,000, and the township of Newark, in Licking Co., $100,000, to this work.

Canandaigua and Corning Railroad.

It is said that the rails of this road are all laid, and the cars were to have commenced running last Monday.

Railroad Subscription.

Livingston County has voted $25,000 to the Hannibal and St. Joseph Railroad, in addition to a large private subscription.

The Electric Light.

Much has been said and written upon the application of the powerful light produced by artificial electricity to the purposes of illumination. Many varieties of apparatus have been invented, to all of which there has hitherto been some great objection. Perhaps the greatest difficulty to be surmounted has been that of rendering the light steady and permanent by mechanical means, so that it shall not require any attendant. This difficulty, at least, seems to have been obviated by the invention we are about to describe.

The light is called "Staite's Patent Electric Light," after its inventor. It is produced from a galvanic battery of moderate size, embracing in its construction and elements several features, which are claimed to be improvements, the object of which is to render the battery constant, continuous, and regular in its action, and economical in its cost.—By means of solid copper wires the electric fluid is conveyed to the lamp, which may be placed on a table or suspended from the ceiling. In this lamp are two cylinders of carbon, which are used as electrodes, that is to say, the current of electricity is passed from one to the other as they stand end to end, their ends being separated from one-twentieth to one-half an inch, according to the power of the current applied; and these cylinders are moved by a clock work arrangement, in proportion as they are consumed, at a speed which is regulated by the currents. To render the light continuous, it is necessary that these two pieces of carbon should first be brought into actual contact, so that the current may pass and then be separated to a short distance. This is accomplished, and here is the grand feature of the invention, by *the current itself*, without manual aid. As the carbon gradually wears away, at the rate of about an inch in two hours, the same regulated distance between the two electrodes is preserved by like means. The apparatus for effecting this self regulation is an electro-magnetic instrument, placed directly under the plate of the lamp, through which the current of electricity is caused to pass. The principal of this instrument is very ingenious, in some degree resembling a galvanometer; the galvanic current, passing thro' a coil of wire, magnetises a bar of soft iron, which is passed through the coil; and in proportion as the current is strong or feeble, the magnetised bar rises or falls. When the current is in excess, it actuates an escapement, and the two electrodes are drawn to the required distance apart; and when the current passing is less than the regulated quantity, the motion is reversed, and the electrodes are drawn nearer together.

Thus the light is rendered steady and constant, while no more of the fluid is allowed to pass than is developed in light, effecting a great economy of battery power. To prevent injurious vibrations or sudden movements of the iron bar, it is provided with a rack, wheel work, and fly. Another improvement consists in giving the upper electrode the form of a circular disk made to revolve slowly in contact with a fixed scraper, which keeps the edges clean and free from the particles of carbon projected upon it from the lower electrode. The carbon is prepared by forming a powder of charcoal into paste with melted brown sugar, pressing it into iron moulds, and baking it in the moulds at a red heat, and afterwards in a crucible at a white heat.

There have been several public exhibitions of this light, all of which have been successful. In one case it was exhibited in the large rooms in Hanover Square, London. The rooms were, as usual, lighted with chandeliers of wax candles, with a considerable number of oil lamps; the total amount of light being considered to be equal to 200 or 300 wax candles. On the lecture table was the light apparatus, covered with a tall glass shade. All things being made ready, the galvanic circuit was completed, and in a few second the whole apartment was filled with such a blaze of diffusive light, as caused the now dimly burning candles and lamps to assume the muddy and lack-lustre aspect they bear in ordinary sunlight. Every object in this large room was brilliantly illuminated, and as an assistant turned the light on and off at pleasure, the transition was as violent as from broad day to evening twilight. The paintings on the ceiling were finely displayed; and, what was very remarkable, the tone of the colors was precisely similar to that which they are seen to possess in daylight. All the delicate intershadings of the yellows, grays, flesh tints, and even of greens and blues, were brilliantly defined, and in all respects conveyed the daylight impression to the eye. The light was about equal to that of 700 or 800 standard wax candles, yet a lady's bonnet might have covered the entire apparatus; and the actual source of light did not occupy an area of more than an inch in every direction, if so much. The rays were then concentrated by a powerful lens, and directed upon some pictures, which were placed for the purpose on the side of the room, and the colors could be as clearly seen as by the light of the sun.

By means of a glass prism, a spectacle yet more beautiful was shown: this was the display of the *prismatic spectrum*, the entire number of the rays being present, and in brilliancy not to be distinguished from the same as shown by the decomposition of the true solar light. Perhaps one of the most striking displays of the character of the electric light followed. The electrodes were immersed in a globe of water, and still the light continued gleaming forth in all its brilliancy. Those who are familar with the oxydrogen light, and the peculiarly white and somewhat intense light of the camphene lamp, might have felt doubtful of the result of a contrast with these; but the electric effulgence outshone both to a remarkable degree. It was stated at the time, that a volume of light equal to that of 10,000 wax candles could be ovolved by the apparatus from a square inch of actual illuminating surface. It was said that a light of from one candle to 100,000 might be obtained and sustained by this new system; and with regard to the cost of production, the light equal to 100 wax candles was obtainable at the rate of a penny an hour, or about as it is stated by the inventer, one twelfth part of the cost of gas for the same period, and producing the same degree of illumination.

The character of the electric light presents several remarkable interesting features, most of which belong to no other artificial light, whatever, and assimilate it to that of the sun itself. The heat evolved is vastly disproportionate to the light produced, as may be conceived from the fact, that the lamp, when pouring forth a volume of light equal to 800 candles, did not emit more heat than that of one Argand lamp equal to six or seven candles.—The light has been displayed, not only in air and under water, but also in alcohol, ether, sulphurate of carbon, and in atmospheres of carbonic, nitrogen and hydrogen. The apparatus constructed for domestic use gives a light equal to from eight to forty candles.

There is another point which appears to be important in considering the applicability of this beautiful light to the illumination of streets or great arears, and that is its *diffusibility*. The ordinary modes of illumination are incapable of giving lu-

minosity to the solid and aqueous particles in the atmosphere for any considerable extent, but the electric light effects this admirably, for even if a person places himself in the shadow under a wall he can easily see to read; so that the argument brought up by some, that in attempting to light large spaces with a single light, much of the area must be thrown into the shade, is of no weight.

But there is one chemical peculiarity about this light which demands a brief notice. It is found to possess those chemical powers of decomposition, which have been regarded as peculiar properties of the solar light, and which are known under the name of *actinism*. Preparations of silver, which turn black when exposed to the sun's light, blacken also before the electric light; and the chemical union of mixed gases, hydrogen and chlorine, has been effected by placing a jar containing them in the light of the electric lamp.

The Great Railway in Egypt.

The Viceroy has made final arrangements for the construction of a railway between Cairo and Alexandria, and has signed an agreement for that purpose with Mr. Borthwick, now in Egypt, on the part of Mr. Robert Stephenson. Mr. Borthwick intends returning to England, to send out a staff of engineers to commence operations forthwith. This undertaking will confer inestimable advantages on Egypt by bringing forth the resources of the country, besides facilitating the transit of passengers and merchandise to and from India. It is calculated that the line will be completed in about two years and a half. The whole length will be about 130 miles, and it will cross the Nile at the barrage, where a substantial bridge is already nearly finished, having been made by French engineers with the object of damming the Nile for the better irrigation of the land—an attempt in which they have signally failed after having spent an immense amount of money.

Probable Future Substitutes for Coal, &c.

We have a confident hope, however—or rather a firm belief—that long before our coal fields are really exhausted, discoveries will be made, both of new motive powers and new sources of heat or caloric, which will make all future generations independent of those clumsy and dingy resources. Motive power we think, will probably be supplied, either directly by such omnipresent and inexhaustible elements as electricity and galvanism, or by the employment of some gas, far more elastic than steam, and capable of being called into action and again condensed by slight mechanical impulses, or by changes of temperature, incalculably less than are now necessary for the management of that comparatively intractable substance; but, even if we should still require to use steam, we are persuaded that means will be devised for its generation, or rather for the production or evolution of heat for that and all other purposes far less operose, indirect, and precarious, than the combustion of coal. This may probably be effected without any process of combustion at all; either by the great agents of galvanism or electricity already referred to; or by the friction, hammering, or rolling of solid and practicable indestructible bodies; or by the forcible compression of common air, or of other elastic fluids; or by the chemical combination of different substances; while, if combustion must still be resorted to, might it not be constantly maintained without the tremendous expense of the working and transportation of fuel, by merely contriving a method of burning the inexhaustible, omniprescent, and eternally reproduced element of hydrogen, as it exists in the great ocean, and in all our lakes, rivers, fountains and tanks, and tubs of rain-water with the equally omnipresent, inexhaustible, and constantly reproducing oxygen of the circumambient atmosphere? These, we are aware, may now strike many (perhaps most) people as mere Utopian or Laputan fancies; and undoubtedly they are, as yet, but vague and general suggestions. But when we consider how much wilder and more audacious (as less warranted by any analogous experience) similar anticipations of electric telegraphs, photographic painting, or railway locomotives, must have appeared but fifty years ago, we really cannot consent to put them in such a category; but, on the contrary, confess to a certain feeling, both of pride and confidence, in thus recording what we cannot but consider as a truly prophetic, though it may be but a dim and somewhat indistinct, vision of a good and glory to come.

Bridging the Nile.

The editor of the Boston Medical and Surgical Journal, now on a visit to Egypt and Nubia, gives the following account of the bridge in progress of construction across the Nile near Cairo:

"A French engineer is constructing a beautiful bridge across the river, where the water is both deep and swift. The arches are of large brick.—Another appears to be building over the Damietta branch, as seen in the distance. Mud machines, all iron, worked by steam; pile drivers, and machinery of all kinds suitable for carrying on a heavy business; besides immense piles of stone, brick, lumber and other materials, independently of laborers, soldiers, carts, horses, boats and mules, give the spot for six miles round, an active and bustling appearance. Six years, we are informed, have elapsed since the piers were commenced. This is the first bridge, it is believed, ever built across the Nile. It was commenced by Mahommed Ali some years since, and a fear is entertained that it will never be finished. The diving bell is an extraordinary machine, with which sixty men are at once sunk to the river-bed to drive piles, lay the stones, &c. The water at the lowest point is thirty feet deep, and the mud thirty more below that, down through which the foundation of the pillar is sunk, in iron boxes, till its weight lodges on the firm bottom. The whole length of piers for receiving the arches, is ninety feet. Last season 25,000 men were employed, at present only 2,000, the Pacha having used up his funds in building and furnishing costly palaces in all directions. Every three months the Governor of a district is called upon for a certain number of villagers for this public work."

and are bringing them into general use upon their road.

One year's experience with the above improvement, has fully convinced me that there has never been anything offered to the public for that purpose which possess such intrinsic value; int act, this is an improvement which seems to overcome all the difficulties found in all the various kinds now in use. It possesses very many advantages over all others: Some of which are [first] the first cost is much less than that of most boxes in use. [Secondly] 75 per cent is saved in oil; one gill applied to each Journal once a month, or one quart to an eight wheel car, is all these boxes require per month [Thirdly] no dust can gain access to the Journal, which is constantly lubricated with clean oil; hence the saving in repairs of Journals and composition bearings, is a matter of importance. [Fourthly,] its construction is truly simple—not complicated, having nothing liable to become loose by constant and severe service. [Fifthly] for convenience there is nothing which approaches this improvement.—The composition bearings may be removed from the Journals of an eight wheel car, by one man, and returned, or duplicates, in twenty minutes, while under the car: the same would require two men, at least half a day with other boxes in use.—The trucks and wheels using these boxes, are free from oil and dirt, usually seen upon all railroad cars, at great expense to the corporation.

NATH'L JACKSON.
Supt. Car Building and Repairs, F.R.R. Co.

—

Boston, March 9, 1849.

I hereby certify, that I have examined a box for Car Journals, invented by Mr. Lightner of Roxbury, Mass, and I have thought so well of it that I have adopted it on our railroad, I have known of its success on other roads.

S M. FELTON,
Supt. F. R. R.

—

Office of the Central R. R., N. J.,
Elizabethtown, May 1849.

H. F. ALEXANDER, Esq.,

Dear Sir:—Your favor, [wishing to be informed how we liked Lightner's patent axle boxes for R.R. Journals,] has been duly received; in answer we would say, we have used the boxes on Locomotive tenders one year, more or less, and on our cars some six months. I consider them the best boxes in every respect, I have ever used, or even seen used on any other roads—for safety, durability and the economy pertaining to all the details connected with the boxes and Journals of R. R. Car wheels; and we shall adopt them upon this road.

Yours Respectfully,
JOHN O. STEARNS.
Supt. Central Railroad Co., N. J.

—

Manchester, N. H., Nov. 1st, 1850.

H. F. Alexander, Sir,

I have used "Lightner's Boxes" under all the Cars of the Manchester and Lawrence railroad, and feel no hesitation in saying that I think them to be the best boxes now in use.

Yours, &c.,
THEODORE ATKINSON, Agent.

—

Cheshire R. R. Office, Keene, March 5th, 1851.

Mr. H. F. Alexander,

Sir,—Lightner's Patent Boxes have been used on the Cheshire R. R. about a year, and have given the highest degree of satisfaction.

All the Passenger Cars now in use, and a considerable number of Merchandize Cars are furnished with them, and they will take the place of the Common Boxes on all the cars as fast as circumstances will permit.

Very Resp't.
L. TILTON,
Supt. Cheshire R. R.

—

Boston and Worcester Railroad, Boston, April 1st, 1851.

H. F. Alexander, Esq.,

Dear Sir,—Lightner's Patent oil saving box for railroad cars, has been adopted by this corporation; we are taking out the common and substituting the Lightner's at the rate of fifty boxes per month; it will soon take the place of all others, as it is decidedly preferable to any heretofore used by this corporation.

G. TWITCHELL, Supt.

Statement of amount of oil used on 32 8-wheel freight cars, on the Boston and Providence Railroad (with Lightner's Boxes) from March 10, 1849, to February 27, 1851, and upon 12 8-wheeled passenger cars from September 8, 1849, to February 27, 1851.

FREIGHT CARS.

Amount Oil.	No. months.	Amount Oil.	No. months.
1.—21 pts.	10	17.—23½ pts.	14
2.—19 "	6	18.—23½ "	11
3.—25 "	13	19.—36 "	21
4.—18 "	7	20.—22 "	10
5.—22 "	12	21.—38½ "	24
6.—24 "	13	22.—29 "	23
7.—20 "	11	23.—35½ "	23
8.—21 "	11	24.—37½ "	23
9.—23½ "	10	25.—51 "	23
10.—21 "	9	26.—31½ "	24
11.—20 "	9	27.—28½ "	23
12.—21½ "	11	28.—36 "	23
13.—19 "	8	29.—50½ "	24
14.—25½ "	17	30.—50 "	23
15.—20½ "	10	31.—41 "	23
16.—31 "	18	32.—39½ "	23
		Total, 925½ pts.	510

PASSENGER CARS.

1.—19½ pts.	18	7.—30 pts.	18
2.—25½ "	18	8.—25½ "	18
3.—33½ "	16	9.—29 "	18
4.—19 "	15	10.—46½ "	17
5.—15 "	15	11.— 9 "	9
6.—22 "	18	12.—65½ "	17
		Total, 340 pts.	197

Averaging 1 4-5 pints of oil for freight, and 1 7-10 for passenger cars per month only!

All orders and enquiries promptly attended to.

BRIDGES & BROTHER,
No. 64 Courtlandt st., New York.

July 25, 1851.

To Boiler Makers, Engineers, etc., etc.

PATENT LAP-WELDED IRON TUBES,
Manufactured by the
BIRMINGHAM PATENT IRON TUBE CO.
UNDER
PROSSER'S PATENT,
from one and a quarter to eight inches in diameter.

These tubes are well known for their superiority over all other descriptions for Locomotive, Marine and other Steam Engine purposes, for which they are used very extensively in Great Britain and on the Continent of Europe.

For sale in quantities to suit purchasers, by
WILLIAM BIRD & CO.,
44 Wall st., New York.

July 26, 1851.

To Railroad Companies.

THE undersigned has discovered and patented an imperishable, cheap, and sufficiently elastic substance, to be introduced between the sill and rail, so that the stone sill can be used in place of the wooden sill: entirely overcoming that rigidity where the rail is laid directly on stone. Address

J. B. GRAY, Philadelphia.

July 10, 1851. 4m

To Contractors.

Peru and Indianapolis Railroad.

PROPOSALS will be received at the office of the Peru and Indianapolis Railroad, in Noblesville, until the evening of the 13th of August next, for the Grading of the line of the above road from Noblesville to Peru, a distance of fifty miles. Also the masonry for Bridges over the Wabash, Big Pipe and White Rivers.

The proposals are to be addressed to W. J. HOLMAN, Esq., Chief Engineer, at the Company's Office, where plans and specifications of the work may be seen. Payments will be made monthly in cash, reserving 15 per cent. till the contracts are completed.

Indianapolis, July 12, 1851.

European and North American Railway.

THE undersigned, the three persons first named in the first section of an act passed by the Legislature of Maine, and approved the twentieth day of August last past, entitled "An Act to incorporate the European and North American Railway Company," and being specially authorised therefor in and by said act, hereby give public notice that, for the purpose of receiving subscriptions to the stock of said company, as established by the act aforesaid, according to the provisions thereof, not exceeding forty thousand shares, books of subscription will be opened under the direction of the undersigned, according to the regulations prescribed, at the time and places following, viz:—On WEDNESDAY, the Twentieth day of August next,

At Calais, Maine,	with	Noah Smith, Jr., Esq.
Eastport,	do. "	Col. Bion Bradbury.
Machias,	do. "	Walker & O'Brien,
Ellsworth,	do. "	Seth Tisdale, Esq.
Oldtown,	do. "	Geo. P. Sewall, Esq.
Bangor,	do. "	Geo. W. Pickering, Esq.
Orono,	do. "	Hon. Israel Washburn, Jr.
Waterville,	do. "	Hon. Timothy Boutelle.
Brunswick,	do. "	Prof. William Smyth.
Augusta,	do. "	B. A. G. Fuller, Esq.
Belfast,	do. "	John Y. McClintock, Esq.
Portland,	do. "	John B. Brown, Esq.
Portsmouth,	N.H.	Hon. I. Goodwin.
Salem,	Mass.	Stephen A. Chase, Esq.
Boston,	do. "	Francis Skinner & Co.
Lowell,	do. "	John Wright, Esq.
Worcester,	do. "	Charles Washburn, Esq.
Providence,	R.I., "	Billings Brastow, Esq.
Hartford,	Conn., "	Hon. C. F. Pond.
New Haven,	do. "	Allen Prescott, Esq.
New York,	N.Y., "	R. & G. L. Schuyler, No. 2 Hanover street.
Albany,	do. "	John V. L. Pruyn, Esq.
Troy,	do. "	Hon. John D. Willard.
Philadelphia,	Pa. "	Hon. Wm. C. Patterson.
Montreal,	Canada,	Hon. John Young.
Quebec,	do. "	J. B. Forsyth, Esq.

Said books will remain open for ten successive days at the places and with the persons aforesaid.

Dated at Portland, this sixteenth day of June, A. D. 1851.

ELIJAH L. HAMLIN,
ANSON G. CHANDLER,
JOHN A. POOR.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

IN press, and will be published in a few days; accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price $1.

Also in press, and will be issued in a few weeks, "*Trautwine's Method of Calculating Excavation and Embankment,*"

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidity, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, $1. For sale by Wm. Hamilton.

June 28, 1851.

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

Notice to Contractors.

Steubenville and Indiana Railroad.

PROPOSALS will be received at the Office of the Steubenville and Indiana railroad company in Steubenville, until the first day of October next, for the Grading and Masonry of the first division of the road extending from Steubenville to the Connotten valley and also for the construction of the entire road between Steubenville and Coshocton; and also distinct proposals for the construction of that portion of the road extending from Coshocton to Newark.

The entire length of this line is about 110 miles, and it contains work of all descriptions, in great variety, some of which is quite heavy.

Proposals will be receivad for the Grading and Masonry of the first division entire or in sections of about a mile each, the Company reserving the privilege to make such disposition of the whole work, as may appear most conducive to its interests.

Plans, profiles and specifications can be seen at the office of the Company after the 15th of September, and further information may be obtained on application to J. Blickensderfer, jr., Chief Engineer, or to the undersigned,

D. KILGORE, President.

Notice to Contractors.

Engineers Office, E. T. & V. R. R. Company, Greenville, E. T., June 5th, 1851.

PROPOSALS will be received until the 1st day of October next, for the Grading and Masonry of that part of the E. T. & V. Railroad between the Eastern terminus of said road at King's Meadow, and Rheatown, in Greene County, a distance of about forty-seven miles. A large amount of very heavy work, both in Grading as well as Masonry, will be found on this division, offering strong inducements to able Contractors.

Maps, Profiles, and Specifications can be seen at this Office, on and after the 20th of July next.

The Company reserve the right to reject all, or any proposals that they deem unsatisfactory.

Proposals should be directed to the Treasurer and Secretary of the E. T. & V. Railroad Company, Jonesborough, E. T.

LLOYD TILGHMAN,
Chief Engineer.

Railroad Lanterns.

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,
No. 24 Commercial St. Boston.

August, 16, 1849. 6m33

Railroad Iron.

THE Subscribers, Agents for the Manufacturers, are prepared to contract for the delivery of Railroad iron at any port in the United States or Canada, or at a shipping port in Wales.

WAINWRIGHT & TAPPAN,
29 Central Wharf.

Boston, June 1, 1851.

Bowling Tire Bars.

40	Best Flange Bars	5½x2	inches,	11 feet long.
40	"	5½x2	"	7 feet 8 in. long.
40	" Flat "	6x2	"	11 feet long.
40	"	6x2	"	7 feet 8 in. long.

Now in store and for sale by

RAYMOND & FULLERTON,
45 Cliff street.

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,

NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—

Railroad iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention

THE Fourth Annual Exhibition of AMERICAN MANUFACTURES, by the MARYLAND INSTITUTE *for the Promotion of the Mechanic Arts*, will be opened in Baltimore on the 20th October, 1851.

The Exhibition will be held in the SPLENDID NEW HALL of the Institute, (fronting on Baltimore street) now being rapidly completed. Their edifice is centrally situated, chaste in its architecture, solid in its construction, and is *by far the largest and most complete building in the United States, devoted to the Mechanic Arts.* It may be added that this building is 355 feet long by 60 in breath, with an average height of 68 feet, containing some twelve apartments, the largest of which is 255 feet by 60, and that the cost will be over $70,000.

To this Exhibition, the Managers ask the attention of all engaged in industrial pursuits throughout the country, and cordially invite them to contribute specimens of their best productions for public inspection, and to compete for the prizes offered by the Institute. These prizes consist of GOLD and SILVER MEDALS, DIPLOMAS, etc., which were last year distributed as follows:—*Gold Medals*, 16; *Silver ditto*, 90; *Diplomas*, 60; besides 85 articles of Jewelry, etc., to ladies. *Fair play will be scrupulously observed towards all*, and every facility of Steam power, shafting, fixture, labor, &c., &c., will be amply provided *free of expense.* The machinery will be under a special superintendent, and a fine display of it is looked for. The last exhibition of the Institute was visited by more than 40,000 persons, and with their vastly improved accommodations and alterations, this number will be doubled at the coming display, embracing many Virginians, Pennsylvanians, and other strangers from the South and West.

Joshua Vansant, President.
Ed. Needles, F. A. Fisher, } Vice Presidents.
Samuel Sands, Rec. Sec'y.
Wm. Prescott Smith, Cor. Sec.
F. J. Clare, Treasurer.

BOARD OF MANAGERS.

Ross Winans,	Simeon Alden,
P. S. Benson,	J. T. Watson,
Josiah Reynolds,	W. Robinson,
Thomas Stowe,	*Wm. A. Boyd*,
Thos. J. Lovegrove,	*Adam Denmead*,
A. Flannigain,	*C. W. Bentley*,
E. Larrabee,	*Geo. R. Dodge*,
John F. Davis,	*Saml. E. Rice*,
Wm. H. Keighler,	*John F. Mereditt*,
Richard Edwards, Jr.,	*W. Abrahams*,
Wm. Bayley,	*Thos. Trimble*,
R. Eareskson,	*Chas. Suter.*

(☞ The last nine *in Italics* are the Committee on Exhibition.)

The Hall will be opened for the reception of goods on MONDAY, 13*th October*; on the next Monday, 20th, at 7 P. M., the Exhibition will be formally opened to the public, and will *positively* close on Wednesday, 19th November. Articles *for competition* must be in the Hall by *Thursday* night, Oct. 16, *unless delayed in shipment after starting in ample time.*

Those who intend depositing, will give the Committee or the Agent, notice as early as possible, stating *the nature of the goods, and probable amount of room required*, to exhibit them to advantage

☞ Circulars, containing a view of the new Hall and the full regulations of the Committee, with special information, if required, may be had promptly, by addressing the undersigned, or the Institute's Agent, J. S. Selby, Baltimore, *post-paid.*

ADAM DENMEAD,
Chairman Com. on Exhibition for 1851.

SUPERIOR BLACK WRITING & COPYING

INK.

Jones' Empire Ink.

87 Nassau st., Sun Building, New York city.

Net prices to the trade—

Quarts, per dozen,	$1 50		6 oz. per dozen,	$0 50	
Pints,	"	1 00	4 " "	0 37½	
8 ounces,	"	0 62½	2 " "	0 25	

On draught per Gallon, 20 cents.

This is the best Ink manufactured. it flows freely, is a good copying ink, and will not mould, corrode, precipitate or decay. Orders for export, or home consumption, carefully and promptly attended to by

21tf THEODORE L.ENT.

To Railroad Companies, etc.

The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

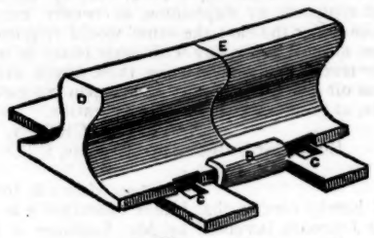
I also invite attention to an improved PATENT SPRING LOCK, for SLIDING Doors to Freight and Baggage Cars, now in use upon the Pennsylvania Central, Greensville and Columbia, S.C., Reading, Pa., and other Railroads.

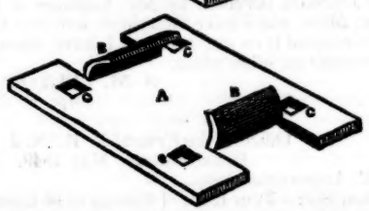
Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,
46 South 8th St. Philadelphia.

May 9, 1851.

The American Railroad Chair Manufacturing Co.





ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

DESCRIPTION OF THE ABOVE CUTS.

Figure 1 is a perspective view of the rail secured in the chair, and fig. 2 is a perspective view of the chair itself. D, E, are sections of two rails placed together, and secured at the joint on the chair by the jaws *B*, B. The chair is bolted down by spikes C, C. In fig. 2, the chair is represented as made of a single block or plate A of wrought iron.

The chair is set in its proper place on the track, spiked down, and the ends of the two rails brought together within the jaws as represented in fig. 1.

For further information address,

N. C. TROWERIDGE, Secretary,
Poughkeepsie, N. Y.

June 1, 1851.

Railroad Commission Agency.

THE Subscriber offers his services to Railroad Co's and Car Makers for the purchase of equipment and furniture of roads and depots and all articles and materials required in the construction of cars, with cash or approved credit. No effort will be spared to select the best articles at the lowest market price.

He is sole Agent for the manufacture of the ENAMELED CAR LININGS, now in universal use. The best Artists are employed in designing new styles, and he will make to order pieces with appropriate designs for every part of the car, in all colors, or with silver grounds and bronzed or velvet figures.

He is also Agent for Page's Car Window Sash Fasteners, which is preferred by all who have used it to any other.

CHARLES STODDER,
75 Kilby st., Boston.

June 20, 1851. 3m.